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Original Articles.

AFFECTIONS OF THE KIDNEY IN RELATION TO PREGNANCY.*

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CHANGES IN THE KIDNEYS DURING PREGNANCY.

For many years there has been much discussion as to the alterations occurring in the kidneys during pregnancy, and, at the present time, there is considerable difference of opinion as to the nature of these changes, their frequency, causation and significance. The literature of the subject is abundant in speculative inquiries, while records of trustworthy facts derived from careful and systematic observation are scanty. Indeed, though theories have multiplied, it is doubtful whether we are very much wiser than we were fifty years ago, for the latest and most favored views, originating among French workers, are only an elaborated expression of the opinion published by Virchow in 1848.

This authority then pointed out that, of all the organs in the female organism, the most frequent functional or structural alterations due to pregnancy were found in the kidneys. He regarded the cause mainly as connected with altered metabolism, changes being induced not only in the kidneys, but in the liver, spleen and other parts. In association with these alterations, he pointed out the frequency of albuminuria.

In view of the time limits which the present occasion demands it is impossible to do more than present a summary of the main lines of investigation along which workers have moved in their efforts to throw light on a difficult subject.

That the kidney becomes somewhat hypertrophied as a result of pregnancy all are agreed, though the nature of the enlargement and range of variations are not at all definitely known. The quantity of urine is increased and it is of a lower specific gravity.

Sugar is found in a considerable number of cases of pregnancy, and more frequently after delivery, but this is only milk-sugar absorbed from the breasts, not true glucose. The latter is no more frequent in pregnancy than in the non-pregnant state.

Peptones are occasionally found in pregnancy; by many being thought to indicate death of the fetus, though there is no proof whatever of this. They are very frequent after the first three or four days of the puerperium, when they are derived from the involuting uterus.

With regard to occurrence of albumin in the urine and its significance, there is an amazing difference of opinion. Its frequency has been variously estimated by different workers.

The following statistics are given by different German authorities: Meyer, in 76 parturient women found albumin in 40.78 per cent.; Litzmann, in 100 parturient women found albumin in 43.7 per cent.; Löhlein, also in 100 parturient women found albumin in 37 per cent.; Flaischen, in 537 parturient women found albumin in 16.9 per cent., and Winckel, in 367 parturient women found albumin in 19.4 per cent.

These percentages are noticeably higher than those given by leading French obstetricians. Thus, Pinard states that out of 1249 parturient women in the Baudelocque Clinic in 1890, only 73 cases of albuminuria—6 per cent.—occurred: of these slightly less than 3 per cent. were associated with pregnancy, the rest with labor.

So far as may be gathered from more recent observations, it may be stated that serum-albuminuria occurs in about 2 per cent. of all pregnant women who are healthy at the beginning of pregnancy. The process of labor causes albuminuria in a still larger percentage of cases. Aufrecht found it was produced in 18 out of 32 women examined; Ingersley in 50 out of 153 cases of labor. It is most frequent in women during the first pregnancy, especially in those who are no longer young or in those who are very young. Of all cases it is belived to be most associated with the presence of more than one fetus *in utero*. It occurs mainly in advanced pregnancy, only rarely in the early months.

What is the significance and explanation of this albuminuria of pregnancy? Is it, as some hold, a physiologic process of no importance, or is it to be regarded as many authorities consider it, as the result of pathologic changes induced in the cortical portions of the kidneys? In favor of the former view may be adduced the cases of healthy men and non-pregnant women in whom a temporary albuminuria may be caused by various factors, e. g., changes in temperature, food, exercise, etc. The investigations of the late Grainger Stewart undoubtedly appear to justify the view that there may be an albuminuria, which is to be regarded as a physiologic peculiarity and not the indication of a pathologic process. *A priori*, then, it must be conceded that a like explanation may suffice for some cases of the albuminuria in pregnancy.

Regarding the view that a morbid process in the cortices of the kidneys is the essential cause the following facts may be stated: In very many cases of albuminuria other signs of renal diseases may be present. Thus edema may be frequently met with. Winckel's statistics may be noted: In 1874, in 319 pregnant women edema occurred in 20 per cent; in 1876, in 1058 pregnant and parturient women it occurred in 4.35 per cent.; in 1877, in 1091 pregnant and parturient women it occurred in 6.96 per cent., and in 1878, in 1050 pregnant and parturient women it occurred in 5.52 per cent. Leyden is of the opinion that anasarca is much more common than albuminuria and that when they co-exist the edema has appeared first. Then, again, there is

* Read before the Chicago Medical Society.

often a deficiency in the quantity of urine passed and in the total solids excreted. But most important of all is the occurrence in the urine of various formed elements, viz.: casts and blood-corpuscles. Fischer, who has given much attention to this subject points out that these are mostly found in the last weeks of pregnancy, when they often show progressive increase. Hyaline casts are frequent, while granular and epithelial ones and broken-down epithelium may also occur. Red blood-corpuscles and leucocytes may be passed continuously or at intervals.

Now, as to the relationship between the above findings of physical examination on the living subject and those obtained by post-mortem investigation it is impossible to speak with absolute certainty. The great majority of such patients do not die and, comparatively, only a small number of post-mortem studies have been made. There can, however, be no doubt that sufficient work has been done to establish the probability that renal cortical lesions generally occur, though with a considerable range of variation.

The most frequent changes found are as follows: The kidneys are enlarged and less firm than normal; the cortices are swollen, anemic and of pale gray color; cloudy swelling and granular changes are found in the cells of the tubules and, often, fatty degeneration. In a small number of cases it is certain that the kidneys may not recover from this condition after labor, but may pass into a permanent, true parenchymatous nephritis. In the majority of instances, however, there is every reason to believe that they may be restored to their normal condition in a short time. Olshausen has described an interesting case in which the urine contained abundant albumin, casts and blood-corpuscles at the time of labor, eclamptic phenomena being also present. The patient died five days after delivery and at the post-mortem examination no changes whatever were found in the kidneys.

Of extreme interest is the consideration of the etiology of the albuminuria and renal changes above described. The subject is an extremely difficult one and has been the occasion of much speculation and much polemical writing. Only a brief reference to the most important views is here possible.

Compression of the ureters.—Halbertsma of Utrecht, from his studies of eclampsia, believes that increased intra-abdominal pressure due to the pregnant uterus, may by interference with the functions of the ureters, lead to alterations in the renal structure. He thinks that the special tendency to these alterations in primiparæ, hydramnios, multiple gestation, contracted pelvis —in all of which the pressure is increased—strengthens his view. Ries, holding somewhat similar views, believes that in some cases compression of the ureters by the presenting part of the fetus is the most important factor. These views have not been accepted by most authorities. Halbertsma's statement that dilatation of the ureters is frequent in such cases has not been corroborated. Olshausen found dilatation only seven times in 37 post-mortems.

For my own part, I believe that too little attention has been given to the opinions of Halbertsma and Ries.

While it is true that the anatomic relationships of the ureters are such that they are generally protected from the pressure of the pregnant uterus or its contents at any special point, the possibility of an abnormal pressure over a considerable extent of the ureters in certain cases can not be denied. Though the projecting vertebral bodies are the main safeguard from pressure on the ureters, they can not entirely protect it. My frozen sections and casts of pregnant women show that the enlarged uterus moulds itself accurately along the spine and on each side of it. At the brim this moulding is particularly well shown. In conditions of tense abdominal wall, such as is found in young or old primiparæ or of abnormally large uterus, as in hydramnios or multiple pregnancy, it is very evident that the general pressure on the ureters must be increased. In the late weeks of pregnancy, as is well known, the fetal head lies in the pelvic cavity in primiparæ, and, if the pelvis be justo-minor or funnel-shaped in type, or the head be abnormally ossified or enlarged, the ureters can scarcely escape being unduly compressed against the pelvic wall. Even though in these various conditions there may not be a local interference with the flow through the ureters there may be produced a paresis of their walls, as Halbertsma first suggested, leading to a marked weakening of their peristaltic action.

The earlier critics of this worker pointed out that the pressure theory could not explain the cases in which renal disturbances developed in the puerperium. More recent studies of the puerperal woman by means of frozen sections supply a very evident explanation. I have shown that the post-partum uterus in its retracted and contracted condition fills the greater part of the normal pelvic cavity to such an extent as to form a bulky plug compressing all extrauterine tissues firmly against the pelvic wall, interfering considerably with the circulation of blood through them. The ureters share in this compression. This condition of affairs lasts for three or four days, during which period renal disturbance mostly occur. The postpartum uterus varies somewhat in size and, therefore, if it be rather larger than normal or if the pelvis be justo-minor or funnel-shape in type greater compression is produced. Ries, Halbertsma and others have shown that pelvic inflammatory exudates may cause compression of the ureters, and consequent renal disturbance in the puerperium. It is interesting to note, in this connection, that large fibroid and ovarian tumors, especially the former, are not infrequently associated with changes in the urine, kidneys and ureters similar to those found in pregnancy; and in some cases the renal function may be completely destroyed.

Finally, it is interesting to note certain experiments on animals: Aufrecht ligated a ureter in a dog and killed the animal three days later. The corresponding kidney was much swollen, its pelvis along with the upper part of the ureter distended. The cortical tubules of the kidney were damaged, being somewhat dilated, and containing abundant hyaline—fibrinous—casts, their epithelium showing granular and fatty changes.

Apart from compression of the ureters it may be that the kidneys themselves are so affected by certain degrees of increased intra-abdominal pressure as to undergo degeneration; or, it may be, that in the same manner the renal circulation is interfered with. Compression of the renal arteries or interference with the flow of blood in the veins is sufficient to induce albuminuria and degeneration in the kidneys if continued long enough.

Influence of the Products of Metabolism.—Virchow in 1848, stated that disturbances in the kidneys during pregnancy were mainly due to the influence of altered body metabolism, and he pointed out the frequency with which the renal changes are accompanied by corresponding conditions in the liver. During the past fifty years different theories have been advanced to explain the nature of the alterations induced by the metabolic process in pregnancy. At the present time the majority

authors hold to this theory in a general way, though there is very great divergence of opinion as to its actual application.

In pregnancy the increase in maternal metabolic activity is evident. This means a greater quantity of excrementitious matter to be eliminated. As the ovum develops fetal metabolism becomes a more and more important factor. Fetal waste products almost entirely enter the maternal blood by transmission through the walls of the villi from the fetal circulation. An extra burden is therefore thrown upon the maternal kidneys, and if they can not respond to the increased demand on their activity, they are apt to suffer. The waste products may exert a direct poisonous action on the cells of the tubules, or, indirectly, through their influence on the arteries in the kidneys, constricting them and thereby interfering with the nutrition of the tubules. The changes are believed to be similar to those found in such conditions as ptomain poisoning and acute yellow atrophy where the destruction of the kidney tissue may be very rapid.

The influence of the skin, lungs, liver and intestines aids in getting rid of the waste products of metabolism, and it is evident that interference with their functions will throw greater burdens on the kidneys. It is in pregnancy especially that these functions are apt to be interfered with. In most civilized countries a large number of pregnant women have a prejudice against cleansing the skin of the body. The production of albuminuria in a healthy dog by varnishing its skin is a well-known experiment. Then the tendency to irregularity in the digestive tract and to constipation in pregnant women is a very common one. Clinically, it is very easy to prove, in the albuminuria of pregnancy, that promotion of free action of skin or bowels, or of both combined may lead rapidly to a diminution in the quantity of albumin in the urine.

With regard to the influence of the fetal waste products it has been noted in cases of albuminuria that death of the fetus may lead to a rapid diminution or disappearance of the albuminuria, and this is believed to be due to the cessation in the transmission of the waste products from the fetus to the maternal blood. There is much speculation as to the nature of the waste products which exert the destructive influence. Various subjects are mentioned, e. g., leucomains and ptomains formed in the bowel and reabsorbed when the bowel action is faulty; also creatin, creatinin, inorganic salts of potash, various alkaloidal products of digestion, etc.

The extent to which the kidneys may be affected depends, therefore, on a variety of factors. In the majority of cases in which they are affected, no permanent damage results nor do serious complications arise. In a certain number of cases serious renal diseases may be induced, and in a considerable number of cases where the disproportion between circulating poisonous waste products and rectal excretory action becomes too great, the serious phenomena known as eclampsia supervene, the woman's life being greatly endangered.

As might be expected, a number of workers have advanced the view that the main factor in producing the toxemia of pregnancy is microbial infection. Some have found germs in the blood, some in the kidneys, others in the placenta. In some cases cultures injected into animals produced general toxemia and changes in the kidneys resembling those found in the altered kidney of pregnancy. Other workers have obtained negative results.

While it is impossible, at the present time, to postulate any well-ascertained results regarding the relationship of micro-organisms to the toxemia of pregnancy, in view of such experiments as those of Doléris and Poney, Blanc, Favre, Gerdes and others, and in the light of Adami's recent work on subinfection, it can not be denied that in some cases of pregnancy-toxemia, the important agent may be some form of microbe, and that in their effort to destroy and remove the organisms, the kidneys may be so affected as to undergo the pathologic changes to which I have already referred, with consequent accompanying alterations in the urinary secretion.

Finally, after reviewing the most important theories advanced by those who have worked in this difficult sphere, it must be admitted that much is to be said in favor of each. Indeed, it is highly probable that something of the truth is contained in all of them, that in most cases no single factor is causal, but rather a combination of various factors, these varying greatly in different instances. The most important of these is undoubtedly the toxic element. Only from such a standpoint is it possible to group into an intelligible synthesis the heterogeneous clinical phenomena and physical changes found in the abnormal condition of pregnancy under consideration.

Nephritis.—Where true nephritis exists before or begins in pregnancy, the disease, as a rule, is a more serious matter than in the non-pregnant state and the prognosis is unfavorable. In the case of chronic nephritis, an acute exacerbation is usually induced. The patient may die from kidney failure, and uremia is very apt to occur. Only in a small percentage of cases are the phenomena of eclampsia noted, as has been pointed out by Fehling and Leyfert.

As regards the influence on the course of pregnancy the tendency to premature emptying of the uterus is to be particularly noted. According to P. Müller it occurs in more than 40 per cent. of cases. It is attributed to various causes, viz.: hemorrhages into the placenta, causing infarcts and destruction of portions of the chorionic villi, or separation of the placenta. The fetus may die as a result of the accumulation of toxic material in the system, and this is an important cause of the premature expulsion. The fetal mortality is very high. Hofmeier noted that the fetus died in twenty out of twenty-three cases of nephritis. Braun has estimated the mortality at 80 per cent.

Treatment.—The treatment of a pregnant woman with symptoms pointing to disturbed renal functions is to be carried out on the lines followed in the non-pregnant state. The strictest watchfulness on the part of the physician is necessary. With regard to the question of allowing the pregnancy to continue, it is difficult to decide. There are, however, certain indications which point imperatively to the induction of premature delivery, in the interests of the mother, viz.: visual disturbances, and continued headache, pulmonary or other marked edema, marked cardiac disturbance, frequent nose-bleedings, continued increase in the casts and albumin in the urine, uremia. In a number of cases the woman may respond to treatment so satisfactorily as to go to full term and be delivered of a healthy child.

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DISCUSSION.[1]

DR. JAMES B. HERRICK said, with reference to the patchy character of the renal changes, that it seems to him that this offers a possible explanation in some cases of so-called functional albuminuria. It is difficult to explain why in certain cases patients have albumin in the urine at a certain hour of the day, after a little exertion, after a particular kind of meal, etc., and yet it is conceivable that in some of these cases only very small areas of the kidney are diseased. These areas are not extensive enough to produce the cardiovascular changes that accompany nephritis.

As to the paper of Dr. Webster, it seems more probable that toxemia has more to do with the production of albuminuria of pregnancy than has pressure, and the facts cited by Dr. Webster lend color to that theory. The carelessness regarding excretion through the skin in pregnancy; the very commonly-met-with constipation; the increased and altered metabolism; the very commonly-met-with digestive disturbances of the stomach and of the intestines, and the fact that the pregnant mother has to eliminate for the child as well as for herself, etc., all lend color to the toxemic theory and make it more attractive than the pressure theory.

Referring to the treatment, Dr. Herrick confessed that the more of these patients he sees, the more it is impressed on him that it is a safer procedure to empty the uterus early. Senator's definition of functional albuminuria was given. On the slightest increase in the albuminuria, in spite of treatment, on the indication of uremic manifestations, whether they be in the form of a persistent headache, amaurosis, nausea and vomiting, or what seems to him a valuable and significant symptom, a severe epigastric pain, even without nausea and vomiting, on the appearance of edema of the face, which can not be ascribed to pressure, he believes it is always a safer plan to empty the uterus. While this may not be in accord with the teachings of obstetricians, yet he has never regretted emptying the uterus early.

Speaking of the paper of Dr. Davis and of the etiology of nephritis, he believes the intestinal tract is frequently at fault. This fits in with the toxemic theory of the origin of many cases of nephritis. The diet depends not so much on the percentage of albumin that may be in the food as on the way in which the alimentary tract handles the food. In other words, the diet should depend more on the condition of the alimentary tract than on the food itself.

Referring to the intermittent administration of milk as a diet in chronic diffuse nephritis, he spoke of an acquired tolerance of the kidneys for certain kinds of food. We have a patient, for instance, with chronic nephritis, who is constantly passing albumin; on feeding him with certain kinds of food the amount of albumin increases. On the other hand, put the patient to bed, give him a very restricted diet—a pure milk diet—for a time, and the amount of albumin begins to diminish. The kidney is having a rest, and after a rest of three or four, or possibly six or eight, weeks the patient tolerates articles of food that he could not before tolerate. He can now be given a mixed diet, with perhaps a liberal amount of meat, and the percentage of albumin will not be increased in a way that it would be formerly.

[1] The paper by Dr. N. S. Davis, Jr., was printed elsewhere and is abstracted in our Current Medical Literature Department, this week, p. 972.

DR. N. S. DAVIS, JR., in closing, said that his attention had been drawn to the effect of the condition of the alimentary tract in the production of albuminuria and the appearance of tube casts in the urine, because of the frequent finding of either tube casts alone, or albuminuria alone, or the two combined, in all sorts of maladies in the more acute stages. However, this condition is usually transitory. There is not really produced a genuine nephritis in these cases, but simply a moderately disturbed functional activity of the kidney, and yet enough to produce these symptoms. He has seen them repeatedly in connection with digestive disorders, and in connection with simple and chronic bronchitis, as well as other maladies observed in hospital practice. A study of the records of hospital laboratories would reveal the fact that in a large proportion of the patients who enter hospitals traces of albumin, or tube casts, are found, which disappear—at once, and usually permanently—from the urine as soon as the intestinal tract is thoroughly emptied and the patients are placed on a simple diet that is well assimilated and well digested by the stomach and bowels. These facts have impressed on him the relationship of the condition of the alimentary tract and digestion to the production of nephritis. It is not the only cause, but simply one of the causal factors of renal troubles.

THE EVOLUTION OF THE ANIMAL CELL.*

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The phenomenon of life, and the interesting features grouped around it—whether examined in relation to either of the subkingdoms, vertebrates or invertebrates, constituting the animal kingdom, or to the vegetable world—while furnishing a wide scope for physiologic research, offers matter for serious and thoughtful speculation. It would be impossible to underrate the diligence with which questions of great import relative to vital phenomena have been examined by the earlier biologists, and the results attained; and because many of their conclusions have of late years been demonstrated to be inaccurate, none the less must their labors be appreciated. Such conclusions, however, must be considered in the light of *cruces,* which brought about the evolution of physiologic research. Aristotle, in his great work on anatomy, wrote concerning *partes simulares et dissimulares,* and years afterward, Fallopius discussed the nature of tissues; yet the ideas of these philosophers on tissues, especially those of the human body, were faulty and superficial, and the doctrine of elementary structure, whether in plants or animals, did not excite the serious attention of morphologists previous to the middle of the seventeenth century. At that period the structure of the various animal and vegetable bodies began to excite greater attention, since Malpighi had superseded the simple lens by the simple microscope as an accessory in all anatomic inquiries. This was a decided advance on the earlier methods of investigation, but it would appear no general advantage was attained until the commencement of the eighteenth century, when improvements in the optical parts of the microscope placed at the disposal of the biologist the means to the end. In the meantime we find Leeuwenhoek, a Dutch physician, had been investigating embryology. Rusch had worked at the same subject to the neglect of the great branch histology. Later, however, Lieberkuhn, Fontana and Hewson devoted attention to this branch, and many facts hitherto unknown were for the first time brought forward and laid before the scientific world for consideration.

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Harvey, at the commencement of the present century, enunciated his great axiom, now universally accepted, *omne vivum ex ovo,* as being the fundamental or keystone of the arch on which the development of all animal life rested, but beyond the bare proposition of his theory he was unable to go, and so it remained until some years after his death, when the value of his theory was proved.

In the infancy of biological research the most insurmountable difficulty requiring elucidation was the method of propagation, more correctly speaking, the development of the various species, since in the after phases the question was one fraught with complicated and almost incomprehensible problems. Not only did these difficulties surround the higher differentiated animals, but they were common to the lower organisms of the invertebrates, and amongst which they became more inexplicable. Originally, these difficulties probably arose from the adoption of some of the earlier theories enunciated and accepted to explain the vital problem, for example, spontaneous generation, which taught that all vitality arose spontaneously, assuming and perfecting development in some way equally as mysterious and spontaneous as was the generation, while the want of appreciation of the vast difference existing between the protozoon and metazoon cells only tended to increase and complicate the difficulty. While recognizing that vital phenomenon originated in a so-called cell, the fact that cells could not arise without the aid of pre-existing ones was overlooked, consequently theories had to be elaborated to explain the beautiful phenomenon of propagation of cells necessary for the purpose, which being based on false premises resulted in opposite conclusions. Schwann,[1] however, first applied the cell theory to the development of animal tissues about 1837; Von Mohl had previously written his work on the cell theory of the vegetable world, pointing out that it was by the various changes which took place in these cells, and the evolution so brought about, that the tissues of the animal body were formed, while Marshall,[2] alluding to this development, affirms that the "differences in the different tissues and organs of plants and animals depend on differences in the chemical and physical activities of the constituent cells."

Schwann assumed that cells might arise in the surrounding matrix or blastema independently, but Godsir, in 1845, clearly showed up the fallacy of all preceding theories bearing on this point, and once for all set at rest speculation by defining the doctrine that cells could not develop or originate without the existence of pre-existing cells, and from which they arose by fission.

In Reenak, Kölliker and Virchow this advanced theory found very able and prominent supporters, and a much-vexed question being set at rest a further development was the result, which Marshall regarded as "one of the grandest generalizations, and the soundest established in morphology." This was the discovery of the mammalian egg, or ovum, by Von Baer. He demonstrated this ovum to consist of a nucleated cell of complicated structure, constituted of two parts, the inner part termed the nucleus, the center of vitality—on this the cell depends for segmentation and aggregation—and the outer or surrounding elementary matter. This was termed the cell slime or protoplasma, a compound of carbon and nitrogen, of efficiency on that period arriving when the potentiality of the nucleus begins to assert itself for the segmentation and consequent aggregation of cellular life, which ultimately reasserts itself in the adult individual. The shape of the nucleus is varied; it is sometimes round, and oftentimes it is oval, even assuming a spheroid. In constituency it is similar to the surrounding elementary protoplasma, generally slightly more solid, never softer than the cell slime, which remains throughout its existence in the same state of density. The core and the protoplasma are the two essentials of all existence. Every other particle of matter is subservient to these two great elements, the histic, or constituting factors of the cell. They must be regarded as passive, that is to say, in a state of quiescence, having been assumed from without in the active bearing of the protoplasm, or formed by the interchange of movements through which this beautifully constituted attribute of life is continually passing. Life or vitality therefore depends on the growth and development of this original animal cell or ovum.[3] It must not, however, be assumed that the cell remains in a constant passive state, that is remains in one continual phase of quiescence. It is an organism of very complicated evolution, and passes through exceedingly interesting physiologic phases in its progression to the complete stage, when it is perfected for the consummating act which releases its embosomed vitality, for which the working of a complicated development has been preparing it.

One of the earliest features in the development is the action of the protoplasm, so important in the economy of cell life. During the progressive formation of the cell contents, a small central point, or pip, becomes observable; this is of equal importance to the elementary body as is the protoplasm. It is the vesicle or nucleus, and was first observed by Purkinje, in 1825, when following out some investigations on the fowl's egg. Further researches eventually accomplished what had hitherto been suspected, and demonstrated that this vesicle, which had been considered a structural formative vesicle containing a smaller nucleus, in other words a small cell within a large one, was actually a fact. Shortly after Purkinje's discovery, R. Wagner made the fact, that within the nucleus there existed a nucleolus or germinal spot, clearer. The acquisition of this knowledge regarding the structure of the ovum again assisted in complicating matters, for we then became aware that the nucleus is possessed not only of a very complicated structure, but has, in a sense, a curious and internal evolution of its own,[4] since its vitality depends far more on certain substances, the arrangement of which may vary considerably according to the condition of the nucleus, whether in an active or quiescent condition, than on its shape. Hertwig,[5] alluding to these features, remarks: "It is necessary to state at the commencement of my observations as the most important point in classifying the various nuclear forms, that they all possess a certain uniformity in composition, whether the nuclei of animals or plants, or Protista be under examination, it is invariably seen they are composed of a larger or smaller quantity of material which I shall call nuclein substance—nuclein."

The nucleus is not now termed a vesicle within a cell, the definition of Schwann and Schleiden, but it is described as a "portion of a special substance which is distinct from the protoplasm, and to a certain extent separate from it, and which may vary considerably as to form, both in the resting and actively dividing condition."[6] The great difficulty does not arise in formulating the definition of a nucleus, but in describing the vital substances which are contained therein, just as in defining the cell, the greatest difficulty arises in describing the protoplasm.

The nucleus is constituted of a mass of substances peculiar to it, differing from protoplasm and distinguishable from it.

When the ovum has attained maturity, a feature of the utmost interest begins to reveal itself, and this phase may with certainty be regarded as the completion of the cycle of cell evolution. The process is enigmatic, and several theories have been set on foot to explain it. The nucleus of the ovum, up to this period of maturition generally central, now moves, changes considerably in structure, and after a short duration divides. A minute cell with a small amount of protoplasm is given off with the nuclear matter, and a short period of quiescence follows. Then that portion of the nucleus remaining in the ovum duplicates the process, and another minute cell is similarly expelled. The process is termed the extrusion of the polar globules or bodies, and although the phase has not so far been demonstrated in the ova of reptiles and birds, and is rarely observed in those of fishes and amphibians, it is very probably a feature of universal occurrence.

For a long period it was regarded as absent in Arthropods, but the investigations of Weissmann,[7] and amongst others Blockmann,[8] in this direction, clearly established the process taking place. The small cells or globules linger for a time on the outer membrane of the ovum, leading a kind of parasitic existence, but eventually they swage away. Some question has been raised as to the exact period at which the extrusion of the polar globules takes place, but as a general rule, since the remaining female nucleus is now ready to unite with the nucleus of the spermatazoon, it heralds the essential moment of fertilization, and correctly so, since the process is one of the greatest importance in cell structure.

In parthenogenetic ova the same regulation is not observed; from these structures only one polar globule is extended in place of two, a fact demonstrated by Wiessmann,[9] and Ishikawa,[10] in a series of cases amongst the *Daphnia, Ostrocoda and Rotifera.* The rule of extending one polar globule only is, on eminent authority, assumed to be general amongst this class of ova. Blockmann[11] has succeeded in showing that in non-parthenogenetic eggs of insects, two polar globules become extended, as likewise has Platner.[12] Further, it has been demonstrated that in the parthenogenetic ova of the plant louse, and aphis, one polar globule exists, and one only, in such instances the usual feature of parthenogenetic development being prominent. Eggs, however, developed after fertilization has taken place, follow the law of non-parthenogenetic ova, and extrude two polar globules. The subject of parthenogenesis is one which can only be casually alluded to at the present moment, and surrounded as it is by extremely interesting phenomena, it offers a field of the widest scope for study. One of the phases is the difference existing between parthenogenetic ova and ova which require to undergo the act of fertilization before producing offspring. This difference has been worked out, and is found to exist in the formative matter of the polar bodies themselves, for while in the natural ova two polar bodies are divided off as previously described, in parthenogenetic ova "development of the second polar cell and consequently reduction of the nuclear substance, which is otherwise connected with the process, does not occur." Hence the summer egg of a Daphnia possesses, without the assistance of the fertilizing sperm, that nuclear potentiality in the normal nucleus which enables it to develop.

The ova of many animals, if not fertilized, commence to develop parthenogenetically at the normal time for such process to make itself active, and attempts have been made by the ova of many worms, echinoderms, and certain arthropods, to so develop: even the ova of some of the vertebrates, e. g., birds, in the absence of the male elements, have commenced this mode of development, and began to segment, eventually forming the germinal discs. In support of this peculiar phenomenon Hertwig gives the following remarkable occurrence, which was observed by Boveri during the formation of the polar cells in Nematodes and Pterotrachea, and by himself in *Astera anthron.* "After the separation of the first polar cell, that half of the spindle which was left behind in the ovum, develops into a complete spindle again just as if the second polar spindle was going to be divided off. However this does not occur, for the second spindle only divides into two nuclei, which remain in the ovum itself. After some time they fuse together in this place, and drifting toward the middle of the yolk again produce a single nucleus, as it were by self fertilization. By means of this nucleus the parthenogenetic processes which quickly follow are introduced. Thus in this case, the second division, the purpose of which is to reduce the nuclear mass and to prepare it for subsequent fertilization, is abortive. That by this means no sufficient compensation is made for the absence of fertilization is evident from the subsequent course of parthenogenetic process of fertilization; i. e., from the more or less premature death of the ovum.

"From the circumstance that in parthenogenetic development the formation of the second polar cell does not occur or is abortive, we might conclude that development invariably becomes impossible after the nuclear mass has been reduced to one-half of its normal amount, unless a fresh stimulus is given to the organism by means of fertilization. However, at present this conclusion, which perhaps contains some truths, can not be said to be applicable generally; for Platner,[13] along with Blockmann and Hewking, has observed that the ova of certain Arthropods—*Liparis dispar,* Bees—develop in a parthenogenetic manner into normal animals, although like ova which require fertilization, they have produced two polar cells. In these cases a more careful investigation of the circumstances with reference to the number of nuclear segments is certainly desirable.

"Hence at any rate, it must be admitted, that it is possible for ova, which contain reduced nuclei as a result of the formation of the two polar cells, to develop further in a parthenogenetic manner, for nuclei which contain a reduced amount of nuclein have in no way lost their capacity for division, as may be easily supposed. An experiment conducted by Richard Hertwig and myself,[14] on the ova of the sea-urchin, proves this in a striking manner. By shaking the ova of sea-urchins violently, they can be split up into small portions, which do not contain nuclei; these then become globular, and exhibit signs of life for a fairly long time; further, they may be fertilized with spermatozoa. By this means we can definitely prove that the sperm nucleus, or as is more frequently the case, the sperm nuclei, which have penetrated into one of the fragments of the ovum, become metamorphosed into small, typical nuclear spindles with a radiation at each pole. The sperm nucleus now splits up into daughter nuclei, which for their part multiply by indirect division, so that the fragment of the ovum breaks up into a number of small embryonal cells. Boveri[15] has pursued this observation further, and has discovered the important fact, that out of rather a large non-nucleated fragment of an ovum, which has been fertilized by a single spermatozoon, a normal although proportionately small larva can be developed."[16] Several theories have been submitted to explain this interesting phase in cell evolution—the extrusion of the polar bodies

—but the researches of such naturalists as Butschli, Hertwig, Giard, Fol and others who have practically investigated the question, prove the extrusion of the polar bodies to be a case of cell development or budding. On the other hand, Van Beneden, who, since the above conclusion was adopted, undertook his investigations on the ovum of the thread-worm, *Ascaris*, criticises the conclusion that the phase is a feature in cell division, and considers it to be a unique process in the development of the ovum, but Boveri and Zacharias adhere to the older view, and in this they are supported by other naturalists. Now, although the structural fact is certain, so far no unanimity exists as to what such a process means, and the end to be attained, but apparently three opinions on the matter exist, each of which receives the support of eminent naturalists. By some the egg cell is regarded as a hermaphrodite form, and such hold that the extrusion of the polar globules is the elimination of the male element. Balfour strenuously adheres to this view and expresses himself in these words: "I would suggest that in the formation of the polar cells, part of the constituents of the germinal vesicle, which are requisite for its functions as a complete and independent nucleus, is removed to make room for the supply of the necessary parts to it again by the spermatic nucleus. . . . I will venture to add the further suggestion, that the function of forming polar cells has been acquired by the ovum for the express purpose of preventing parthenogenesis." This suggestion has, however, been disproved, for parthenogenesis is not by this extrusion checked. Minot speaks on the matter thus: "In the cells proper both sexes are potentially present, to produce sexual elements the cell divides into two parts, in the case of the egg cell the male polar globules are cast off, leaving the female ovum." He maintains that since in parthenogenetic ova only one polar body is extruded, sufficient male element is retained to enable the ovum to develop. Van Beneden also regards the polar bodies as male elements.

Others consider the formation of polar globules as an atavistic "reminiscence of primitive parthenogenesis," and this is the view adopted by Buschli. He is supported in it by such an authority as Hertwig. Boveri also regards the polar globules as "abortive ova." This view, however, is more morphologic than physiologic. On the other hand, Weissmann adopts a view quite opposed to either of the preceding; his theory, however, embraces a great amount of hypothesis; some of his assertions are merely assumptions, not being substantiated by any evidence whatever. He advocates the idea that in the nucleus of the ovum two species of plasma exist, the one which enables the ovum to accumulate yolk matter and secrete membranes—these he styles the ovogenetic or histogenetic substance—the other the germ plasma which is requisite to enable the ovum to develop the embryo.

When the ovum becomes mature the ovogenetic substance has fulfilled the purpose for which it was generated, and becomes expelled as the first polar body. This is all that takes place in the parthenogenetic ova. The second polar globule or body is the reduction of the germ plasm which divided, and is reduced by half its volume to be made up for by the addition of the sperm, but a similar reduction—the extrusion of the second polar body—must also take place in the sperm cell.

The changes to which the normal ovum has in the meantime been subjected, and through which it has passed, have greatly reduced its size, but the functional properties are in no way modified in their complexity, nor is the number of its chromatic elements. This is the last stage of its evolution, and in this, its perfected condition, it awaits the consummating act which releases the inherent potentiality, and introduces fresh phenomena for our consideration in the series of changes which follow on the act of fertilization.

This development of the animal cell, although a highly functional reproduction, has its prototypes in several species of the animal kingdom, for example reproduction or further development of parts is common. Thus in the crab, a potentiality exists in the cells, which exhilarates the growth or replacement of a claw lost through accident or other cause; a starfish possesses the inherent power of reproducing lost parts, the potentiality in some instances being requisitioned for providing the means of defense. As an example, the brittle stars, Ophiura, when seized with fear, defend themselves by the voluntary casting of the arms, and afterward the parts lost become renewed. This power of regenerating lost members is not confined to the lower orders; it exists amongst the lizards, many of which can make good the loss of arms and tails. In the Hydra, and amongst the Coelenterata, the process of budding is in evidence—another feature of the exercise of this potentiality—not only for the purpose of renewing the organism, but likewise for the legitimate purpose of propagating the species, while amongst the Protozoa an almost mechanical disintegration takes place, which in the after series of changes becomes more definite, hence "orderly division, both multiple and binary," may be traced to the process of budding.

In the ovum we have the potentiality or inherent power existing which, granted certain conditions, will give rise to cellular division, but in these instances of reproduction amongst multicellular animals, we must not overlook the factors involved in such reproduction, and moreover we must be quite clear as to their concurrent working. Physiologists[17] tell us that special reproductive cells, which are *dimorphic,* are present in more or less *marked contrast* to the ordinary cells making up the body; the organisms which produce them are distinguishable as male and female, and are mutually independent.

If the egg cell or ovum is to develop into an individual, it must in the first instance undergo fertilization by a male element. Now fertilization takes place in a diversity of ways, in some instances the fertilizing elements, or sperm cells from adjacent males, are introduced into the female by means of the current set up by the action of the cilia for the purpose of bringing the nutritive elements into contact with the ova. Amongst some of the Hydrozoa the sperm cell adopts a wandering career, eventually fertilizing an equally bohemian ovum. Most fishes deposit virgin ova in suitable places, and in due course the ova so deposited are fertilized by the male shedding the melt on them. With the majority of animals, however—insects and the higher vertebrates—copulation, which is a union with the female takes place, the spermatozoa passing from the male organs into the female. They make their way up the female ducts and soon meet ova liberated from the ovary, which they fertilize; or they may remain for a long period awaiting the favorable opportunity of contact, or eventually perish from the lack of such occasion. Yet a variety of methods exists even under these circumstances, for the sperms after discharge may be stored in a receptacle specially adapted for the purpose, and in which they are retained until demand is made on them, by the passage of the ova down the ovary; or some such similar action releases them from the receptacle to consummate a union. When the spermatozoa have, in any of the above instances, come into close proximity to the ovum, a strong osmotic action,

evidently of attraction, is set up between the separate elements.

Although it has often been suspected that this attraction, illustrated by the union of two filaments of Spirogyra, may have been set up along a line of osmotic current, brought about by the presence of glucose, or some such other substance in appreciable quantity in the water, investigations undertaken to substantiate such suspicions were not fortunate. Rolph describes the spermatozoa as being in so weak and starved a condition that a well-nourished ovum powerfully attracts the sperm cells, and in some instances arises to meet the spermatozoon, in the form of a small cone. This is the observation of Rolph, but the theory would suggest itself that in place of the spermatozoon being in such a condition as to be incapable of resisting the osmotic activity set up, and so become attracted to the ovum, the opposite activity would be really what takes place, for if the sperm is in that "starved" condition which Rolph assumes it to be in, the ovum would not show any attracting influence in the shape of a small excresence or core on the surface. Assuming the opposite to be the case, and the sperm to possess that strong potentiality with which these elements are endowed, we should expect to find what actually takes place, namely that when the spermatozoon falling under the osmotic influence comes into close proximity to an ovum, its potentiality is such that mutual attraction arises, most emphasized by the small swelling or excrescence in the female organism, which possesses a powerful affinity for the male element. Again, the theory of attraction of the female element by the spermatozoon would appear more feasible on the grounds, that even in the opposite case a batch of spermatozoa in close proximity would not unfrequently find access to the ovum, as was the general belief. The researches of Hertwig and Fol have, however, set this suggestion at rest, and it is now clear that only one spermatozoon affiliates with the ovum, so that as soon as this union takes place access to all others is prohibited. It is, therefore, safe to assert that the female organism is only receptive to one sperm, and that as a rule "the entrance of more than one sperm is impossible." But just as exceptions in other phases of animal development exist, so in the instance of impregnation of the ovum, we find in certain cases more than a single spermatozoon gains access to the organism. When, however, *polyspermy* does occur, only one sperm attains to activity and fulfils the law which brings about development, the others remaining imprisoned in some part of the ovum without further history.

Originally sperms were not considered necessary to the action of fertilization, but by degrees the activity of these organisms was gradually worked out, and their potentiality shown to be essentially necessary to produce the changes, which followed on the act being completed, for when absent from the fluid no changes took place in the ovum. Jacob, in 1784, succeeded in artificially fecundating the ova of salmon trout, and later Spallanzani was successful in similar experiments on the frog spawn; he, however, did not consider the spermatozoon as the factor which produced the after changes, but argued that such changes resulted from the potentiality of the fluid itself, which, when absorbed by the ovum, sets up the activity necessary for its further development. Other physiologists insisted on the sperms being the potential factors in fertilization—Prévost and Dumas in 1824; Leuckart in 1849—and Leuckart directed particular attention to the import of the sperm on such occasions. Kölliker, however, traced the spermatozoa to the testes, and Martin Barry had previously—in 1843—observed spermatozoa in the ova of the rabbit. The absorption of the spermatozoa by the ovum was observed in the water snail by Bischoff and Meissner, and the same feature is recorded by Newport as occurring in frog-spawn.

The question of sexual affinity has not escaped the attention of naturalists, and none the less interesting are the experiments which have been undertaken to explain the action of the phenomenon. Probably the most worthy of notice are the observations made by Englemann[18] on the conjugation of the *Vorticella microstoma*. In this species small male zoospores are formed by budding, and given off; these fertilize the large female individuals after the same fashion as true spermatozoa. On four different occasions Englemann was successful in tracing the bud after its separation from the mother cell, until it became united to another. He describes his observation as follows: "At first the bud always rotating on its longitudinal axis, wandered with fairly constant rapidity—cir. .6′ to 1 mm. per second—and as a rule in a fairly straight line through the drop. This lasted from five to ten minutes or even longer without anything especial happening: then the scene was suddenly changed. Coming by chance into the neighborhood of an attached Vorticella, the bud changed its direction, occasionally even with a jerk, and dancing like a butterfly which plays round a flower approached the fixed form; it then, as if it were feeling it, glided round about it, meanwhile always rotating on its own longitudinal axis. After this had been going on for several minutes and had been repeated with several fixed individuals one after the other, the bud at last attached itself to one of them, generally at the aboral end, near the stalk. After a few minutes the fusion might be deliberately observed taking place." On another occasion, he states, he observed a still more "striking physiological or even psychophysiological exhibition. A free bud crossed the path of a Vorticella which was traveling with great rapidity through the drop, and which had abandoned its stalk in the usual manner. At the moment of meeting, although there was absolutely no contact, the bud suddenly changed its course and followed the Vorticella with the greatest rapidity; then a regular chase ensued which lasted for about five seconds. During this time the bud kept at a distance of about 1/15 mm. behind the Vorticella; however, it did not succeed in overtaking it, but lost it in consequence of its making a sudden side movement. Hereupon the bud continued its path in its original slower pace."[19] This latter observation does tend apparently to weaken any hypothesis, that the spermatozoid is the element which attracts the ovum to activity, but in the instance recorded the phenomenon is exceptional, as is evidenced from the marked description Englemann gives of the event. If, however, we consider the phenomenon as supporting the theory of Rolph, viz.: that it is the female element which, for the purpose of fertilization, attracts a starved spermatozoon, we should expect the male element so reduced in energy, as to be unable to resist the attractive potentiality of the female cell, under whose influence it might chance to fall, and in the instance recorded the only result of such a meeting would, under the circumstances, be the absorption of the male element by the ovum. Fol[20] has also observed the attractive influence which is exerted at a distance on animal cells, for example, on the ova of the starfish; while Falkenberg from his observation on the attraction between the ova and spermatozoid of the *Cutleria*, concludes that the attraction makes itself felt at a relatively

great distance, and states that this attractive force must have its seat in the cells themselves. Another feature is that such sexual affinity, or attraction, is only exerted between sexual cells of the same species. Experiments have been made which, to some extent, were confirmative of the characterization of Rolph, that the male cells are "hungry," and that consequently they are powerfully attracted by highly nutritive fluids. Granting the sperms be such highly katabolic cells, their long persistence of vitality presents some difficulty. Again, if the ovum concentrates, as suggested, that powerful influence of attractiveness on the starved sperm, we should anticipate, that if the sperm cell is attracted by the ovum, as is conjectured in the case of the Vorticella, it would attach itself at once, being powerless to resist, because of its state, and the powerful influence under which it was thrown. But no, it *gyrated* around the fixed form, Englemann emphasizes, after the fashion of a butterfly about a flower. This lasted some minutes, the sperm cell finally leaving the Vorticella and repeating the gyrating movements around several fixed individuals in succession, until it finally became attached and fusion was consummated. This gives a further share of feasibility to the conjecture that the sperm cell attracts the ovum, for the Vorticella being attached, it could not approach the attracting sperm cell, which would of necessity approach the fixed individual through the working of its own inherent attractive force. Zacharias has made a microchemical comparison between the contents of the male and female elements in characeæ, mosses, ferns, phanerogams and amphibians, and the comparison throws open a large field for work on the same lines. The male cells are distinguishable by the "small and absent nucleoli," and by the "rich *content of nuclein*," the female cell on the contrary exhibits great poverty of nuclein, and possesses an abundance of albumin, and one or more nucleoli, more or less large. The male cells have in relation to their protoplasm a larger nuclear mass than is present in the female elements. This comparative analysis would again suggest the powerful attractive influence as lying rather in the sperm cell, than entirely in the ovum, although further experiments and researches may probably prove this wonderful phenomenal attractiveness to be mutual. Further, Nägali[21] has suggested that the sexual attraction may be attributed to the presence of electrical forces in the two elements. This, however, is merely conjectural, and it is better for the present to attribute sexual phenomena in general, "to the reciprocal action of two somewhat differently organized protoplasmic bodies," and to call this action sexual affinity. On this question we must content ourselves with the general expression, since so far, we have been unable to analyze those forces apparently so surrounded with an impenetrable mystery, which comes into activity. In this instance, Hertwig summarizes the matter as not being a simple phenomenon, but one of very great complication. This assertion of such an eminent physiologist should have great weight in urging those who possess leisure for the pursuit of such researches, to bring all their energy to bear on the elucidation of such a great and interesting embryologic problem.

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SUCCESSFUL PYLORECTOMY.*

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Mrs. M. R., aged 37 years, from whom I removed the pyloric end of the stomach, Dec. 10, 1898, had been the victim of stomach trouble for four years and, for six weeks previous to the operation she scarcely retained any food taken, and for the last two weeks none at all. Her general appearance was that of marked emaciation. The analysis of stomach contents revealed hydrochloric acid present (.1095), pepsinogen, rennet-zymogen, erythrodextrin, blood, mucus, sarcinæ, starch, and yeast. There was absence of lactic, butryic and acetic acids, and the Oppler-Boas bacillus. The tumor was moveable and readily palpable through the abdominal walls. Vomiting and pain had been the prominent symptoms.

Operation.—On December 10, commencing at 10:30, under chloroform, a median incision four inches in length was made and very little difficulty experienced in withdrawing the tumor through the opening. The growth involved the greater part of the stomach walls at its pyloric end, protruding into the pyloric orifice, although there was no apparent involvement of the pylorus, neither was there any apparent involvement of the omentum nor surrounding tissues. The next step was the ligature of the duodenum with gauze strips, one ligature being applied about two inches below the pyloric orifice, the other around the stomach at its middle. Only one tie of gauze was made, and this was held with a catch forceps to prevent its slipping. Between the points of the provisional gauze ligatures the omentum of both the greater and lesser curvatures of the stomach was ligated in sections, with No. 2 sterilized catgut. It was then clipped from its attachments.

By these procedures a perfect control of hemorrhage was obtained. The next step was the incision of that part of the stomach in which the growth was situated well beyond its confines, which included one inch of the duod-

*Read before the Wayne County Medical Society, Jan. 4, 1900.

enum and about one-third of the pyloric end of the stomach. The cut end of the stomach was closed at its upper part, leaving at its lower an opening commensurate with the size of the lumen of the duodenum. The method of suturing was first a running stitch of No. 2, dry, sterilized catgut through the mucous membrane, fastening it at every third stitch, then covering it by sewing together the muscular and peritoneal coats in a similar manner. The opening was approximated in a like manner, by first fastening the cut edges at four points equidistant, thus avoiding puckering of the approximation. In order to be doubly sure, another row of suturing of the serous coat was made. The abdominal wound was then closed without drainage. The time of operation was one hour and twenty minutes.

Although but little blood was lost by operation, the pulse became weak and rapid, necessitating a transfusion

FIGURE 1.

with normal salt solution, under both breasts and an injection of strychnin sulphate, gr. 1/30. Just before leaving the operating-table this was repeated, and an enema of two pints of normal salt solution given. At this time the pulse was 104 and fairly strong. At 3 p.m. the pulse was 128, and very weak and irregular. Transfusions were given in both breasts, one pint of saline with two ounces of whisky. Beef peptonoids and enemas were kept up, and the patient rested fairly comfortably during the night.

December 11 the pulse was better, ranging from 110 to 126. At 8 p.m. she vomited a brown fluid of bad odor. December 12 she had a very comfortable night. The next day the abdomen was somewhat distended with gas, which was relieved by the high rectal tube. The condition was the same when she was allowed two or three teaspoonfuls of hot water at short intervals, by the mouth. On December 14 she received bovinine, gtts. x in two ounces of hot water, and on the 15th had a well-formed movement of the bowels after a high enema. During the day she had taken, by the mouth, six ounces

FIGURE 2.

of fluid; this was gradually increased, consisting of broth, beef peptonoids, bovinine, milk, orange juice, etc. She sat up in a chair on Jan. 21, 1899.

An analysis of the stomach contents, made Jan. 7, 1899, revealed the absence of hydrochloric acid, sarcinæ, blood, and lactic acid; the presence of pepsinogen and

FIGURE 3.

rennet-zymogen. January 8 she weighed 103 pounds. January 30 she left the hospital, walking two blocks to the car. Her weight at that time was 110 pounds and in January, 1900, was 133 pounds. She does all her house-

hold duties and eats anything she desires without distress.

Remarks.—The consensus of opinion regarding the surgical treatment of cancer of the stomach, since the time that Billroth did his first operation, has been that of

Figure 4.

laudation, condemnation and criticism, according to the experience and results of the operator. The causes of death following this operation are shock, exhaustion and sepsis, largely due in the first two instances to the condi-

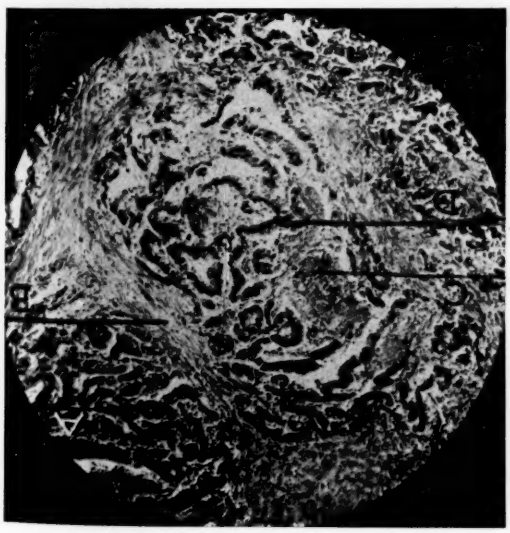

Figure 5.

tion of the patient at the time of operation; in the latter to the faulty technique in most cases. The mortality record has gradually improved. Ewald, who condemned the operation, has a death record of 75 per cent., while Maydl, in a recent report of 25 cases operated on, states that 16 per cent. died from operation, 28 per cent. from recurrence and 56 per cent. are still living. Of this number, one operated on Aug. 27, 1890, still lives. This good showing is undoubtedly due to better technique,

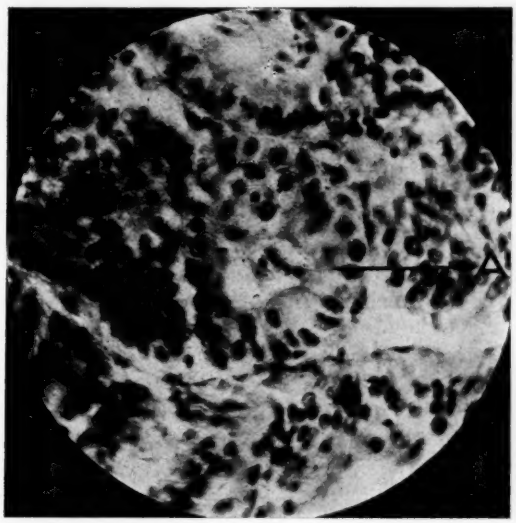

Figure 6.

earlier recognition of the presence of cancer, judicious selection of cases, and experience.

To secure success in these operations proper previous purgation and washing out of the stomach is essential, rigid asepsis, thorough removal of all diseased tissues, strict regard for the control of hemorrhage, and proper

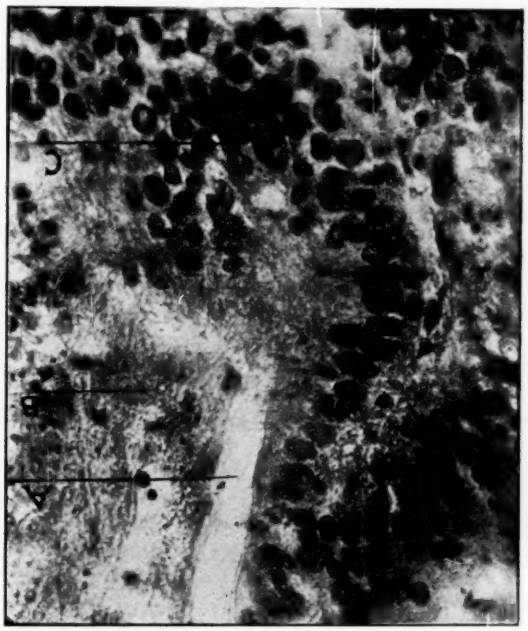

Figure 7.

approximation of cut surfaces, using care not to draw the suture too tightly. It is much better to ligate and cut than to cut and ligate as do most operators, for by this means we have a most absolute control of hemorrhage.

Chancres of the urethra are found in the first inch and accessible to the physician's touch and eye; deeper ones are very rare, so the "supposedly" deeper ones are probably not chancres, but peri-urethral phlegmons, which do well under appropriate treatment.—*J. N. Hyde.*

URETERECTOMY.

BY J. WESLEY BOVÉE, M.D.
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Surgery of the kidney is practically of recent date, although during the sixteenth, seventeenth and eighteenth centuries the practicability of nephrectomy had been discussed and Zabbeccarius, in 1670, and Roonhuyzen, in 1672, had proved by experiments on animals that one kidney could do the work of both. It may fairly be stated that Simon's successful nephrectomy in 1869, though done in an emergency and for an indication not now recognized, marks the beginning of the surgical treatment of this very important organ.

Surgery of the ureter was the logical sequence to renal surgery. Yet, strangely enough, Gigon[1] had thirteen years previously published a case of calculous anuria, recommending and carefully describing the technique of ureterectomy—called by him "ureterotemnie," and practically followed years later by Le Dentu and Pozzi.

The interest in this subject has not lagged, and at the present time nephrectomy for injuries and diseases of the ureter is called for extremely rarely. Now, calculi are removed from the ureter by incision; injuries to it closed by suturing or drainage; strictures relieved by delicate plastic operations, curing many cases of hydronephrosis in this way; resections for complete section of it, either accidental or intentional, are easily and safely done, about twenty cases bearing evidence of this; and even its entire removal has been practiced nine times with gratifying results. It is furnishing the surgical world to-day the richest field for perfect, delicate and scientific operative work.

This paper has essentially to consider the subject of ureterectomy, an operation less than nine years old, one seldom indicated, but offering brilliant results.

By the term ureterectomy is generally understood the partial or complete removal of the ureter. It may be done primarily with nephrectomy, thus making nephrectomy and partial ureterectomy, or, if entirely removed with the kidney, nephro-ureterectomy.

Secondary ureterectomy is practiced some time after nephrectomy or nephrectomy and partial ureterectomy. The sequence of operations in the second case ever done was nephrectomy and primary partial ureterectomy, two months later secondary partial ureterectomy, and five months after that the remainder removed by a third partial ureterectomy. Partial ureterectomy is nearly always done when the kidney is removed, part of the pedicle being formed from the upper end of the stump of this duct. Total ureterectomy was first done in 1893, by Poncet. Partial ureterectomy, first performed by Tuffier[2] in 1881, has since been done ten times (see table). The writer believes many unrecorded ureterectomies have been done and the chief *raison d'etre* of this paper is to prompt the publication of reports of such as well as future ones. As this is as yet a new operation, it would seem to be of the greatest importance to record anything new or additional concerning it. It is this sense of professional duty that prompts me to mention my case, the history of which is as follows:

J. J. T., 48 years of age, was first seen with Dr. Emory Reisinger, of this city, in August, 1898. Three years previously his left kidney had been removed for a renal abscess, and at a subsequent time another operation had been done by the same surgeon for the remaining pus tracts and severe localized pain. He told me he had been an invalid constantly since before the first operation, and begged for relief. He had never been without pain, and was frequently obliged to resort to the use of morphia. I found him in a very much enfeebled condition, his pulse ranging from 110 to 130, and his temperature from 99 to 101.6 F. On the left anterior and lateral aspects of the abdomen, slightly below the level of the umbilicus, were two scars of the previous operations. One of them was so near the median line that I am inclined to think the nephrectomy had been made transperitoneally. A large hernia had occurred at this site. There were three sinus tracts in the left lumbar region, discharging a thin watery pus. In spite of his general weakness I decided an exploration to be advisable, and accordingly, on Aug. 17, 1898, after free stimulation, he was anesthetized.

With the valuable assistance of Dr. Reisinger a careful exploration was made through an extraperitoneal incision reaching from just above the level of the upper fistulous opening and in front of the left quadratus lumborum muscle to an inch inside the anterior, superior iliac spine. By careful dissection and holding probes in the fistulæ, the former location of the kidney was reached. Instead of the kidney a large amount of adipose tissue, containing many pus tracts and calculi and much cicatricial tissue was found, and a little below it the upper end of the ureter surrounded by calculi and thickened pus. The ureter was of about one inch in diameter and filled with cheesy pus and calculi. I resolved to remove the duct, and immediately extended the incision along to the inguinal canal, keeping about one inch from Poupart's ligament. With considerable difficulty, but with very slight blood loss, the ureter, in pieces, was removed to the bladder wall. The distended lumen ended abruptly about half an inch from the bladder wall, this portion being a solid cord.

The wound was closed with through-and-through silkworm gut sutures, a strip of iodoform gauze being passed to the lowest point of the pelvic wound and brought out at the lower end of the external incision, and another strip in the space formerly occupied by the kidney. The unusual atmospheric, high temperature and humidity probably assisted in producing the fatal issue seventeen hours later.

Two pieces of the ureter were sent to Dr. H. A. Kelly, who very kindly sent me the following report from his pathologist.

The specimen consists of the ureter in two pieces, 9.5 and 6.5 cm. long and varying from .5 to 1 cm. in diameter. Its walls are from 1 to 2 mm. thick and consist of a dense fibrous coat lined with caseous material which also fills the lumen of the ureter. Histologically, the lining membrane of the ureter consists of diffused tubercular tissue chiefly composed of large epithelial cells and hyaline material, with here and there definite distinct tubercles and an occasional giant cell. This membrane merges into the caseous material which fills the lumen of the ureter and externally is limited to a zone of round-celled infiltration. The remaining portions of the wall consist of fibrous tissue and a few small muscle bundles. The fibrous tissue is poor in cells, and to a great extent has become completely hyaline.

Diagnosis: Caseous tuberculosis of the ureter.

The specimen had very much shrivelled when it was sent to Dr. Kelly, having been kept for about five months in a solution of formaldehyde. At the time of its removal its lumen easily permitted the introduction of a finger. In this case the original trouble was probably renal tuberculosis, or possibly a pyonephrosis from stricture of the ureter complicated by the formation of calculi, some of which were not removed with the kidney, as they were found in that region and in the ureter

at this operation. The tubercular ureteritis descended almost or quite to the bladder, although a stricture near the bladder may have been the original site of the disease. If it was a descending ureteritis, then bladder tuberculosis would probably have ensued if the patient had survived.

History.—Thus far total ureterectomy has been performed nine times, the first being done by Poncet[4], who, Oct. 18, 1893, did a secondary operation. In 1895 McCosh did a secondary total operation, and in 1895 and 1896 Kelly[2] operated twice, removing both the kidney and ureter. In the latter year McCosh[16] did the same on a man, and Gerster[5] the sixth operation, Hartmann[6] and Morris[7] two in 1897, and mine, the ninth, was in 1898. In Morris' case, part of the kidney had been previously removed by another surgeon, and Morris removed the remainder with the ureter. The first ureterectomy, however, was a partial one, done by Tuffier, in 1891, during a nephrectomy. In 1892, Reynier[8] removed the ureter in piecemeal. Kelly, in 1893, removed a kidney and ureter to the middle of the pelvic portion, and in 1894 Postnikow[9] removed the kidney and a large portion of the ureter. Since then Schiller[18] has done a primary partial, Morris one primary and one secondary, Sommers[19], Pouisson[10], Elliott[11], and Abbe[17], each one, the two latter removing the kidney at the same time. Thus, as seen from the adjoining table, the total operation has been done 9 times with 1 death, and the partial 11 times with 1 death. Four total nephro-ureterectomies have been done with no death, and partial ureterectomy with nephrectomy 8 times with 1 death.

Indications.—It is generally believed that the ureter should be removed with the kidney whenever it appears, either by inspection, exploration or palpation, to be markedly diseased. If the kidney be removed for tubercular disease, the ureter is extremely likely to be involved in the same pathologic process, to a greater or lesser extent, from above downward. In such cases at least a partial ureterectomy will be demanded. However, as it is often impossible to differentiate between healthy and tubercular ureter, at the time of operation, the whole organ should be removed, other conditions permitting. When the kidney is the primary seat of tuberculosis, and a descending tubercular ureteritis follows, the process advances most rapidly along the mucosa. This being true it is readily understood that the invasion may be far greater than can be detected with the paraphernalia at hand during a nephrectomy. The same applies to malignant disease, only, perhaps, less positively. It would seem that to remove the kidney for malignant disease, and allow an unhealthy ureter to remain, is not calculated to tranquilize the conscience of the surgeon. Yet we know the lymphatic current from the kidney is not toward the bladder, but in the opposite direction. In Abbe's case, done for sarcoma of the kidney, the specimen was examined by Dr. Prudden, who reported: "the ureter springs from the central part of the tumor and is considerably thinned and dilated." Nothing more is said of this duct, removed with sarcomatous kidney weighing four pounds, from a child weighing fifteen. Walker found that in sarcoma of the kidney in children, the ureter and bladder were involved in but three of 120 cases. In the very few patients with sarcoma of the kidney operated on, and who survived beyond three years, the ureter was not removed to any extent, which fact strengthens the improbability of such extension. When we consider that the ureter and bladder are liable to constant inundation by the products of kidney disease, such freedom from similar lesions is remarkable. Forms of severe ureteritis, other than tubercular, demand removal of this canal. If old dense strictures of cicatricial tissue are formed in the ureter, causing obstruction with consequent dilatations higher up, there can be no better treatment, if the kidney is to be sacrificed, than to remove this duct as well. There are many conditions of the organ that demand its removal. Ordinary urinary fistula in an otherwise normal ureter has no place in the list of conditions justifying nephro-ureterectomy or nephrectomy. Such conditions may be nicely relieved by simply suturing the ureter, or by drainage, or, perhaps, resection. The same plan is applicable when a number of fistulæ are present, though one can understand the number of them may be too large for the successful application of either uretero-ureteral anastomosis, transplantation into the bladder or other viscus or even to the periphery. Small ureteral fistulæ often close without surgical treatment other than good drainage. This treatment is so satisfactory that some surgeons advocate it in place of suturing the duct even when the latter is quite convenient. Primary malignant disease of the ureter is not very common, if the literature of the subject may be allowed to guide us. Yet as ureteral surgery advances, a different aspect may be presented. It would seem the intimate relation between this duct and the peritoneum would favor early extension of cancer or other form of malignant disease of the ureter, and offer but a short space of time for the possibility of its eradication. Syphilis may play such an active rôle here as to cause incurable or impermeable strictures, and in that event ureterectomy might be indicated, though exceedingly rarely. Hydro-ureter with hydronephrosis will in some cases require entire removal of the ureter and kidney, as in Postnikow's case. Thus far the operation has been done twenty times, in fourteen of which the diagnosis was unequivocally tuberculosis. In four other cases such terms as "empyema ureter," "hydro-ureter and hydronephrosis," and "thick and hard ureter with pus," were employed in explaining the condition. In one it was removed with a sarcomatous kidney, and in another for "traumatic hemato-hydro-nephro-ureterosis." In one case (Reynier's) the condition followed typhoid fever. Excruciating pain in the region of the ureter, especially if sinuses are present, will often at least call for exploration, and, probably, ureterectomy. It is generally the result of leaving behind a diseased ureter, very common after nephrectomy for kidney tuberculosis. We must not forget, however, that considerable of the lower portion of the ureter may be dispensed with by the employment of some form of anastomosis[12], thus saving the kidney function, and even the bladder has been completely removed with success[13] for growths of various kinds as well as for tuberculosis. So ureterectomy is not called for in all serious forms of ureteral disease. Just why thirteen of the nineteen persons operated on in whom the sex is given, were females, is not easily explained.

As practically all cases done thus far were for tubercular disease, recognition of the conditions calling for the operation should not be difficult. In this disease, in every case thus far, the enlargement was marked and the duct could be easily palpated in the upper part of its course, especially during nephrectomy. In its lower part the rectum in the male and the vagina in the female offer very good facilities for its palpation. The employment of the ureteral bougie and catheter are

exceedingly valuable adjuncts in exploration and diagnosis. Then the marked symptom of localized pain, often of an excruciating character, changes in the urine, particularly those of a bacteriologic character, lead to a proper conception of the condition. Often troublesome fistulæ are present, which add largely to the valuable data concerning the condition. Pregnancy seems to aggravate the symptoms. In Tuffier's case incontinence of urine had been continuous since childhood, showing some relation of that trouble with the condition of the kidney and ureter. The condition of the opposite set of organs must give the surgeon great concern in ureteral and kidney surgery. This is often quite difficult of determination. Apropos of this the following interesting case of right hydronephrosis in a girl is reported from Czerny's clinic. She had a tubercular history, but no bacilli were found, and she was kept in the hospital for a long time to ascertain the condition of the left kidney. It was obtained accidentally by Koch's tuberculin. The general reaction was not violent, but locally sensations present in the region of the right kidney were increased. In a few hours after the injection she passed perfectly clear urine, free from pus, in considerable quantity, of normal specific gravity and containing no albumin. The experiment was repeated several times with the same result. The diagnosis made was tuberculosis of the pelvis of the right kidney and part of the ureter. The explanation offered for these phenomena is that the tuberculin caused swelling and occlusion of the right ureter, thus permitting the urine from the healthy side to be passed uncontaminated. After the pain subsided and pus again appeared, tubercle bacilli were found, which was thought to be due to disintegration of tubercles. Czerny did a nephrectomy and found multiple cheesy abscesses in the kidney and a thickened ureter[20].

Prognosis.—The operation is not necessarily a dangerous one, depending largely on the general condition of the patient. The mortality rate thus far is 10 per cent., the two deaths being in very much enfeebled patients; it would probably have resulted differently in an early stage of the disease. When an operation done in practically an unknown field gives such good results, it is not over-sanguine to expect the mortality rate to markedly decrease as experiences multiply.

Methods.—For removal of the ureter, two principal methods have been employed—the transperitoneal and the extraperitoneal It would seem that the former would but rarely be indicated, especially as pus, either tubercular or otherwise, is so constant in the condition demanding the operation, the danger of infecting the peritoneum very marked and, as the ureter lies completely outside this structure, its removal by the extraperitoneal route would seem to be the proper one from an abstract surgical standpoint. In the primary operation, however, with a large kidney tumor, the transperitoneal is the most convenient. Seventeen cases have been done by the extraperitoneal route, one by combined extraperitoneal and vaginal and two by the transperitoneal. Certainly the upper part of the duct is reached with greater facility through the loin, especially in the primary operation. In women, the lower end is most easily reached through the vagina, and Kelly found a small opening into the peritoneal cavity, just above the pubes, of great assistance in one case. The whole length of the duct is much more easily treated in the male as the broad ligament and ovarian and uterine vessels furnish difficult complications. The parasacral route for reaching the lower part of the ureter has been recommended by Morris[14] and others, but is probably inferior to the combined inguinal extraperitoneal and the vaginal. Probably the best incision for total extirpation of the ureter begins about one inch below the twelfth rib, just to the outside and front of the sacrolumbar mass of muscle. Its course is then directed downward to an inch inside and above the anterior superior spine of the ilium and, paralleling Poupart's ligament one inch above it, it may be carried inward as far as necessary. Usually to its middle is sufficient, but a longer distance is easily secured. In the male this incision will give access to the whole length of the ureter, and in the female to all of it above the broad ligament.

Technique.—After making the incision mentioned, through the fascia, muscle, etc., care is necessary not

Date.	Name.	Operation.	Indications.	Result.	Sex.	Remarks.
Feb. 22, 1891. . . .	Tuffier.	Primary.	Intermittent pyonephros and ureter, stricture.	R.	F.	Extraperitoneal; removed upper part of ureter with kidney.
1892.	Reynier.	Secondary.	Descending tubercular ureter.	R.	M.	April 27, 1892, exsection kidney and part of ureter. June 6, 29 and November 18, partial exsections of ureter; extraperitoneal.
March 30, 1893. . .	Kelly.	Primary.	Tuberculosis of kidney and ureter.	R.	F.	Transperitoneal; removed all but lower half of pelvic portion of ureter; ovarian vessels ligated in abdomen.
Feb. 18, 1894. . . .	Postnikow.	Primary.	Hydroureter and hydronephrosis.	R.	M.	Extraperitoneal; removed 13 stones and ureter to 2 cm. from bladder.
April 4, 1894 . . .	Schiller.	Primary.	Tubercular kidney and ureter.	R.	F.	Extraperitoneal; removed ureter to edge of pelvis and kidney.
July 6, 1895	Morris.	Primary.	Tubercular ureter and kidney.	D.	F.	Extraperitoneal.
March 11, 1896. . .	Morris.	Secondary.	Tuberculous ureter.	R.	F.	Intracapsular nephrectomy, Feb. 8, 1896, then extraperitoneally, ureter to broad ligament.
April 1896.	Elliott.	Primary.	Tuberculous ureter.	R.	F.	Extraperitoneal; ureter removed to pelvic brim, stitched 1 mm. of end of stump.
July, 1897.	Pouisson.	Secondary.	Thick and hard ureter and pus.	R.	F.	Nephrectomy 3½ mos. before; ureter removed to 3 or 4 cm. from bladder extraperitoneally.
Nov. 19, 1898. . . .	Abbe.	Primary.	Sarcoma of kidney.	R.	F.	4-lb. tumor from child 8 mos. old and weighing 15 lbs. Removed ureter to near bladder; extraperitoneal.
Dec. 21, 1898. . . .	Sommers.	Primary.	Traumatic hemato-hydro-nephro-ureterosis.	R.	F.	Distension of kidney and ureter by many quarts of dark colored watery fluid; ureter much thickened and distended.
Oct. 18, 1893. . . .	Poucet.	Secondary.	Chronic descending tubercular ureteritis.	R.	F.	Extraperitoneal; removal of tubercular kidney in March, 1891.
1895.	McCosh.	Secondary.	Tubercular ureter.	R		Nephrectomy for tubercular kidney 18 months previous.
Dec. 18, 1895. . . .	Kelly.	Primary.	Tubercular ureter.	R.	F.	Extraperitoneal; sharp oozing from external iliac vein.
1896.	Kelly.	Primary.	Renal tuberculosis.	R.	F.	Combined extraperitoneal and vaginal with short abdominal incision.
1895 or 1896. . . .	McCosh.	Primary.	Tubercular kidney and large perinephrotic abscess.	R.	M.	Ureter the size of small intestine, obstructed ½ inch from bladder.
Nov. 13, 1896 . . .	Gerster.	Secondary.	Empyema ureter.	R.	M.	Extraperitoneal; nephrotomy and nephrectomy in 1893.
Jan. 14, 1897. . . .	Hartmann.	Secondary.	Tuberculosis.	R.	F.	Extraperitoneal; nephrectomy and fixation of ureter in bottom of wound one month before.
Sept. 21, 1897 . . .	Morris.	Primary.	Tubercular kidney and ureter.	R	M.	Extraperitoneal; part of kidney removed in Jan., 1897.
Aug. 18, 1898. . . .	Bovée.	Secondary.	Tubercular ureter.	D.	M.	Extraperitoneal: (see case history).

The first eleven cases are a table of incomplete ureterectomies. The last nine cases constitute another table of complete ureterectomies, as will be readily seen by referring to my paper.

to penetrate the peritoneum. By careful, dull dissection it will be recognized, and the ureter, if large, will be quite easily noticed. If smaller, it can still be detected attached to the separated peritoneum. When the kidney has been removed some time, the search for the upper end of the duct is very often perplexing. Concerning his case Gerster says: "The most difficult portion of the task was to find the renal end, which was searched for in a large cicatricial mass closely connected with the peritoneum," and Abbe found the same difficulty. This may be avoided if in nephrectomy the practice of fastening the end of the ureter in the lower end of the incision is followed. This procedure furnishes a definite location for it, a secondary ureterectomy being much more easily accomplished. When the peritoneum has been raised from the rest of the abdominal wall all along the duct, care being necessary to avoid injury to the round ligament and arteries about the inguinal canal as well as the spermatic cord in prolonged incisions, the ureter may be completely separated, though much danger of opening the peritoneum exists. In the female, if complete exsection seems necessary, the vaginal roof is incised along the course of the ureter. The ureter is to be ligated before being severed, and as further precautions cauterization of the stump and suturing of the mucosa of it have both been recommended. In my case these were unnecessary, as the intravesical portion was solid. The uterine artery is in a dangerous location and may require ligation. Great care is necessary to avoid injuring the sigmoid flexure or the cecum, under which the ureters pass, the ovarian vessels which cross and recross them and the uterine arteries which also cross them. Kelly found it necessary to split up the bottom of the broad ligament in order to remove the portion of the ureter passing through it. As in many of these cases considerable pus is present and a large cavity left, owing to separation of the peritoneum, which permits oozing to occur and fluids to accumulate in the pelvis, it is best to carry a strip of gauze down to the lower end of the wound. Another may be needed in the upper end. The wound, except drainage spaces, may be closed by buried or through-and-through suture.

NOTE.—Since the above paper was written I have found four additional cases of complete ureterectomy:

Garceau, E.: Secondary operation on a woman for tubercular ureter, combined loin, experitoneal and vaginal, Nov. 24, 1897; recovery. Boston Med. and Surg. Journal, 1899.

Le Dentu: Primary operation on a man for papillomatous tumor at vesical orifice of ureter; recovery. Semaine Méd., 1899.

Noble, G. H.: Primary operation for tubercular kidney and ureter; recovery, December, 1899.

Montgomery, E. E.: Primary operation on a woman, January, 1900, for tubercular kidney and ureter; recovery.

The last two cases are unpublished.

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SUGGESTIONS ON RIGHTS AND LIABILITIES OF SURGEONS.*

BY T. J. MAHONEY.

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OMAHA, NEB.

The lawyer is nothing if he is not generous. He is willing to help you out of your difficulties—for a retainer. If, so be it, he can not get a retainer, he will tell you how to keep out of difficulties, for glory; and if there is neither retainer nor glory in sight, he will do it out of pure force of habit.

It is doubtless true that the surgeon is more often compelled to face a situation in which he must consider his own rights and liabilities than is the general medical practitioner. He is often called on to make an election between taking desperate chances and doing nothing. He is called to treat a man who has met with a serious accident. The patient is unconscious. An operation of an important and serious character, involving elements of danger, seems to be necessary. The man is in a critical condition, and if the operation is to be performed at all, it must be without loss of time. The patient is not in a condition to give his consent to the operation. What shall the surgeon do in such a case? What are his rights, and what are his liabilities? Will he be charged with neglect if he refuses to act, or will he be held liable for malpractice if he takes off a limb or opens the abdomen without the patient's consent?

Surrounding circumstances will often assist in resolving these doubts. If the injured man is at his home or surrounded by members of his family, the law will constitute his family his agents to consent for him, that the operation may proceed, and such consent will protect the surgeon to the same extent as if it were given by the patient himself, in the full possession of his mental faculties. But the injured man may be a guest at a hotel or a passenger on a railroad train. He is not in a condition to speak for himself, and there is no one present with either express or implied authority to represent him. Neither is it practicable to communicate with his relatives with any hope of receiving a response in time to be available. In such a case the difficulties of the situation are quite serious. If an important operation is attempted and it should turn out badly; if a limb is removed and the patient, on recovering, can make it appear that the surgeon's judgment was erroneous, even though honestly exercised and with average skill and care, the surgeon is liable and may be compelled to respond in damages, as for malpractice.

The rule as to consent may be briefly stated thus: Where the operation is consented to either by the patient or by those authorized to speak for him, the surgeon is not bound to an unerring judgment; he is protected, if, in his diagnosis, in obtaining consent, and in the operation itself, he exercises average professional knowledge, skill and care. But where he has no consent to operate, he will be bound to the exercise of an absolutely correct and unerring judgment, and he takes on himself the risk that it may afterward be established, even by the aid of

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facts not known to or discoverable by the surgeon at the time, that the patient would have been better off had the operation been omitted, and that damages may be recovered where no want of skill or care is shown. Cases may no doubt arise in which the desire to save human life—an impulse of humanity—coupled with such certainty that the operation is necessary, will justify proceeding without the patient's consent. But in every such case, the surgeon, by proceeding without consent, takes the risk of any evidence that may be afterward discovered tending to show that the patient was, in fact, damaged by the operation.

On the other hand, where the consent is obtainable, either from the patient himself, or from those who have a right to speak for him, a surgeon would be liable for malpractice for failing to operate where the exercise of average professional knowledge and skill would disclose the necessity for an operation; but where consent is not obtainable—where all the risks of an operation are thrown on the surgeon—he will never be held guilty of malpractice for failing to operate.

Consent may be implied as well as expressed. If a conscious patient puts himself in the charge of a surgeon, and afterward becomes unconscious, he has by that act given implied consent that the surgeon shall take such course as his best judgment suggests, and he has, in like manner, imposed on the surgeon the obligation of operating if average professional knowledge and skill would indicate that an operation ought to be performed; or if a person, conscious of having received an injury, sends for a surgeon and becomes unconscious before the surgeon arrives, he has thereby given his consent to whatever course of treatment may be reasonably necessary or proper, and has imposed on the surgeon the obligation of so proceeding.

In considering rights and liabilities of surgeons, we are now dealing with legal and not ethical questions. I have no doubt that the surgeon's own code of ethics is sufficient guide in determining the propriety, from a professional standpoint, of making any disclosure respecting information intrusted to him by his patient. But because of the necessary uncertainty of all ethical codes, they are not safe standards in determining legal responsibilities. The law deals with two classes of disclosures; those given on the witness-stand, and those given out of court. As to the former, the surgeon will not experience much difficulty, because the court will in each instance determine whether the information should be disclosed or not. Still, the rules applied by the courts in deciding what matters the surgeon may disclose on the witness-stand afford the only safe way in which to determine what disclosures may be made out of court. These rules may be thus briefly summarized:

1. The relation of physician and patient must be established or there is no restriction in the making of disclosures.

2. The information must come to the physician or surgeon in his professional capacity.

3. The information, to be privileged, must be such as is imparted to enable the physician or surgeon to perform his duties in the usual course of practice.

4. It will include all information imparted, whether orally by the patient, the statements of nurses and attendants, and the facts learned by a physical diagnosis.

5. Even facts not bearing on the ailment for which the treatment is given, but learned incidentally in the course of treatment or diagnosis, are privileged, and may not be disclosed.

It is impossible to fully elaborate or illustrate these rules here, but a few explanations may be given. The payment, or even promise, of compensation is not necessary to establish the confidential relation. A charity patient is entitled to the same protection as the best paying one. Neither does it matter whether the employment is by the patient or by some stranger, as by a carrier of passengers, as in case of wrecks and other accidents, or by the public, as in the case of paupers. In all such cases, whether the physician or surgeon assumes to treat the patient, or to examine him with a view to deciding whether he shall be treated at all, the relation is established and the obligation of secrecy is imposed. It is not every communication that is privileged. A patient may voluntarily make many disclosures, to his physician, that have no relation to the professional duties of the latter. He may talk about his family or business affairs; but communications of this character are not imparted to the surgeon in his professional capacity and are therefore not privileged. Neither is it true that every communication imparted for the purpose of obtaining treatment is privileged. It must be such as is imparted to enable the surgeon to perform his duties in the usual course of practice. The usual course of practice does not include conspiracies to defraud. Thus, one man may subject himself to treatment for the honest purpose of remedy, and the information imparted by him will be privileged, while another man may inform his physician that he has a certain ailment for which he desires such treatment as will mask the ailment and thereby enable him to perpetuate a fraud on a life insurance company. Such a communication is not privileged, because it is not made for treatment in the usual course of practice.

There is some conflict as to whether confidential communications include anything more than the mere statements of the patient, but the greater weight of authority, as well as the better reasoning, is in harmony with the rule just stated. A more serious difficulty arises in regard to facts incidentally learned. A very strong case in point is that of a woman who brought suit on account of an injury claimed to have caused an umbilical hernia. The defendant sought to prove, by a physician who had attended the patient in childbirth, previous to the accident, that at that time he observed the hernia and it could not, therefore, have been caused by the accident; but the court held that even though the physician had not treated the woman for the hernia, and learned of its existence only incidentally, still it was information which came to him in his professional capacity, and in enabling him to perform his duty in the usual course of practice, and he was therefore not permitted to disclose it.

These suggestions on confidential communications should be qualified by the remark that the privilege did not exist at common law, that where it does now exist it is by virtue of statute, and as statutes as well as their interpretations differ in different jurisdictions, the rules here given can not be regarded as of universal application. They do, however, fairly present the law as most generally enforced in this country. It may be added, also, that no matter how good the motive of the physician or surgeon may be in disclosing confidential communications of his patient, the motive will not protect him. This was well illustrated in the comparatively recent case of a London physician, who, desiring to prevent his wife and daughter associating with a certain woman, disclosed to his wife confidential communications received from his patient. As disclosing the secret to his wife was equivalent to disclosing it to her friends, the physician afterward had the satisfaction of paying a judgment of £12,000, and the costs of the suit.

An enterprising Omaha newspaper recently published a symposium of letters from a number of physicians in answer to the inquiry "whether the doctor is ever justified in refusing to prolong the life of a patient mortally ill." Most of the physicians took the postition that in no case should the physician permit the patient to die while it is possible to prolong life. But a few did not fully agree with that doctrine, and one, who discreetly concealed his name, said that in cases of mortal illness, the means of committing suicide might be placed in the patient's reach, and if he is intelligent he will use them promptly. I shall not discuss this subject from a scientific, ethical, or theological standpoint. The rule of law is very simple, and in exact harmony with the commandment: "Thou shall not kill." The statutes defining murder and manslaughter make no distinction between killing a sick man and a well man. Neither do they recognize as legal, in this country, a practice said to prevail among certain tribes of Patagonians who have not sufficient intelligence to stand on the shady side of a tree, by virtue of which those who have grown so old as to be unable to help themselves or others, and who are certain to die soon in any event, are boiled into soup for the nourishment of the rising generation. Permit me to say, in closing, that I am not an advocate of "Jacks of all trades," and that when the surgeon is really in need of a legal opinion, the best advice I can give him is to hire a lawyer.

THYROID EXTRACT IN JUVENILE OBESITY: A CLINICAL NOTE.*

BY I. N. LOVE, M.D.
ST. LOUIS, MO.

Animal therapy is at this time an alluring subject, being unquestionably all in all the most revolutionary made in years toward the physiologic cure of disease. The medical profession should, figuratively speaking, bow its head in humble apology to the great physiologist and psychologist, Brown-Séquard, for when he contributed to his guild views which were the product of long years of delving and study, they were temporarily received with enthusiasm, but after only superficial consideration were laughed at as the product of a brain suffering from senile decay. We are now beginning to realize, as he did, that in the ductless glands lies the entire scheme of tissue building, repair, life. In this department of work the already established value of the thyroid gland in myxedema, obesity, idiocy, some forms of insanity and other conditions due to interrupted or misdirected metabolism is familiar to all, and favorable clinical evidence is accumulating constantly. More recently the reports on the use of the suprarenal glandular extract in Addison's disease opened up additional lines of experimentation. I should enjoy discussing the entire broad field of glandular therapeutics, but it is my purpose only to present brief clinical experience in the use of thyroid extract in the treatment of juvenile obesity.

At the Louisville meeting of the Mississippi Valley Medical Association, in October, 1897, I reported, favorably, the treatment of four cases of this kind, children ranging from 6 to 10 years of age, weighing from 106 to 170 pounds. Since that time three more cases have come under my care, and have been under treatment for from twelve to sixteen months.

The most characteristic one of these, B. W., a boy aged 8 years, weighed on first presentation to me 131 pounds, was quite tall for his age, but excess of fat was the chief cause of extra weight. He was fairly bright, intelligent and cheerful, but becoming quite sensitive from being called "fatty" by his playmates. I found that his weight had made him quite "luggy," so to speak, and he had gradually become more and more disinclined toward physical exertion. He was quite constipated, not a "hearty" eater, and not specially inclined toward sweets.

I prescribed proper purgation and a course of medication and diet which would antagonize the constipation and favor a general activity of the secretions, regulating the diet by proscribing fats and sweets, and instructing him to eat freely of fruits and vegetables, such as tomatoes, cabbage, spinach, sauerkraut, etc. I also ordered him to pay especial attention to all hygienic rules, such as bathing and massage, and in particular to take plenty of exercise, walking, running, jumping, horseback riding, croquet, and all out-door athletic games.

I then ordered one-half of a 5-grain tablet of thyroid extract to be taken three times a day, and gradually increased the quantity until one tablet was taken four times a day. I observed that with the general increase of the thyroid a general improvement occurred. Within three months he had lost ten pounds in weight, and now, after about fourteen months of treatment, he weighs 106 pounds. The chief feature of his case, however, is that he has developed, very definitely and distinctly, muscle to a considerable degree. He is more active and alert in appearance, both physically and mentally. He lives in an adjoining state, and I see him once every month or two.

This case and the others similarly treated will necessarily be under observation for several years, possibly until complete maturity has been attained, or at least until they have "out-grown" the disposition toward obesity. General attention to exercise and hygiene on the part of the patient has been a factor in the management of the case, but there is no question in my mind that the thyroid has been of great service.

I found, commencing about three years ago, that a most excellent drug to be taken in connection with the thyroid, with a view to prevent depression and unpleasant effects, was strychnia, in doses ranging from 1/150 gr. to 1/50 gr. Not only is strychnia one of our best tonics, but it is almost specific in its helpful effects on the nervous system and on all processes of nutrition. During the past year, for convenience, I have had tablets of thyroid made in two sizes, 2½ and 5 grains respectively. I have combined the strychnia with the tablets, the 2½-grain tablet carrying 1/150 gr. of strychnia, and the 5-grain tablet 1/50 gr. By using either the one or the other of these tablets, in division or without breaking, the thyroid and strychnia have been regulated easily.

We can not too thoroughly appreciate the fact that the best results can be gotten in all of these errors of growth and development in children by commencing the treatment early. The profession and the public should be generally informed that there is a good chance of greatly improving these unfortunates. The results achieved in the treatment of the victims of cretinism and idiocy have been almost brilliant. The results which I have accomplished in my own cases have encouraged me in the hope that, as time passes, we may be able to cure the victims of juvenile obesity, and thus save them for valuable positions in life, rather than their being burdens to themselves and having open to them little in the way of a livelihood save service in the side-shows of circuses or dime museums, with the other freaks and blemished victims of Nature's apparent blunders.

*Presented to the Section on Diseases of Children, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

DISCUSSION.

DR. A. C. COTTON, Chicago—I have listened to this paper with considerable interest, for I have had a limited experience with the thyroid extract, outside of the treatment of cretinism. I have had three adult cases on thyroids for the reduction of obesity. A more or less marked reduction of the obesity has been effected, but in two of them there has been an unpleasant symptom, i. e., headache. One patient could take 5 gr. of the thyroid extract three times a day, but when this dose was increased to 10 gr. three times a day she complained of headache, and I found no way of correcting that. I would like to ask Dr. Love whether he has observed headache following the administration of thyroid extract.

DR. I. N. LOVE, St. Louis, Mo.—I have had to regulate the dosage with both children and adults according to the effect, one of the disagreeable ones being, at first, headache. I have always observed some depression of the heart. This was why I was led to combine strychnin with the thyroid extract. I consider obesity in itself, in the adult, a misdirection, as it were, of metabolism. The nutritive processes are interrupted, and on general principles we should encourage elimination, activity of the circulation and all that will favor the establishment of the proper equilibrium of tissue building. In the ductless glands—of which the thyroid is one—we have important remedial agents. My experience also leads me to believe that the combination of strychnin with thyroid makes the treatment more favorable.

DR. G. M. BLECH, Chicago—Have you ever examined the thyroid gland in your patient before prescribing the thyroid extract?

DR. I. N. LOVE—I have not been able to observe very much apparent change in the thyroid gland. I do not believe the interruption of metabolism is always dependent on this gland. I feel like emphasizing the point made by one of our pelvic surgeons in America, in a paper read before the Mississippi Valley Medical Association—Dr. Sherwood-Dunn. He spoke of "The Conservation of the Ovary," and drew attention to the fact that it was related to the gland which had to do with tissue building. He argued that the ovary should be conserved to the fullest. I think our surgical friends—more particularly the younger men—should be warned against the needless emasculation of women. This point should be borne in mind in this connection.

SEPTIC CONDITIONS IN SOME OF THE ACUTE INFECTIOUS DISORDERS IN CHILDREN.*

BY A. C. COTTON, A.M., M.D.
CHICAGO.

It has been the custom of lecturers and writers to discuss disease by types, the nomenclature depending on certain groupings of symptoms and signs as indicating a particular disordered condition known as a disease. Within certain limits, variation in character, cause, duration, or sequence of symptoms was allowed without a change in name other than saying atypical. So also many well-known, and some rare, manifestations were observed and acknowledged under the terms, "complication." "sequelæ," etc., without, however, requiring a change in the established generic name of the disease. In the description of certain pathologic conditions the modifying terms, such as "acute," "subacute," "chronic," "retarded," "latent," etc., were employed to express at least the stage of the morbid process, though some of the conditions there described were so dissimilar that no relationship was discoverable save that of the name. In the acute infectious disorders, so loath have we been to surrender our nomenclature that great inconvenience and much confusion has obtained in clinical observation and discussions, the atypical prevailing much more frequently than the type, and the varying complications presenting much graver conditions than the presumed original disease.

As a poor hypothesis is better than none, it is probable that our present nomenclature has served a useful end for the accumulation and classification of clinical data. As to persistency of type, probably no class of disorders presents so uniform grouping of symptoms as the exanthemata, yet the possible variety of complication and sequelæ renders the prognosis as uncertain as when dealing with some new and unknown disorder.

Thus far we have been obliged to accept such vague expressions as "climatologic influences," "epidemic characteristics," "individual idiosyncrasy," etc., in explanation of the widely differing results in these presumably familiar, acute infectious disorders. With the advent of bacteriology new light has dawned on infection, and etiology has become the guest of the home. That the advancement of bacteriology toward the claims of an exact science will soon compel sweeping revision, if not a complete overthrow, of our nomenclature, few will deny. Since clinical diphtheria is no longer a recognized entity, and Klebs-Loeffler diphtheria—pure and simple—a *rara avis*, the question may well be raised, why not discard a name which no longer carries any pathologic or etiologic significance? Since influenza without the bacilli of Pfeiffer is like the play of Hamlet without the melancholy Dane, why offend our sense with the persistent abuse of the term? For many years that revered term "pneumonia" has required so much propping up with adjectives that the careless tripper may bring down the entire pulmonary pathology about his ears. As went the ancient "dropsy," "jaundice," "biliousness," and "neuralgia," so must we bid adieu to the terms "influenza," "diphtheria," "pneumonia," and "rheumatism," or, if we retain these names at all, they must be so loaded with modification as to serve only as entertainment to the laity. The query, "what's in a name?" may well apply to our present classification when we consider our newer methods of clinical study, with their inexorable conclusions.

The effort to isolate the etiologic factor in morbid processes impels one to follow the chief mischief-maker, and whether we find him most active at start or finish, we keep him in view, regardless of the old clinical boundaries between inception, development, convalescence, recrudescence, complication or sequel. By persistence in ethical methods of study, we are at last beginning to recognize our real enemy among the factors of uncontrollable morbid processes. An antitoxin has been found that will do all that is claimed for it, viz., minimize the intoxication from pure Klebs-Loeffler bacilli, but that it will cure diphtheria as clinically recognized can not be maintained in the face of the still high rate of mortality. The apparent fact that clinical diphtheria was Klebs-Loeffler diphtheria and something else, had led to the most searching scrutiny as to what the something else was, and I believe no one will deny that the complicative factor which renders the intoxication uncontrollable is often due to the presence of the streptococcus. Whether we ascribe to this microbe additional toxic virulence of its own, or accept the hypothesis of symbiosis, the fact remains that in the graver forms of mischief he is present, and that intractable cases very rarely develop in his absence. So too in pneumonia, in pertussis, in measles, and above all in scarlatina and influenza, the intractable cases are rarely distinguished by the absence of the streptococcus. So evident has this become that the term "streptococcus" has frequently served in clinical description.

*Presented to the Section on Diseases of Children, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

In this connection hasty revision of my case records for the past year inclines me quite strongly to the older theory of the "unity" of poisons in the etiology of acute infectious disorders. During the past season clinical influenza was quite prevalent in our city, and as seen by me, shows, among the severe cases, over 85 per cent. otitis media with streptococcic infection. Pneumonia of this variety of infection has been unusually prevalent among children, with over 75 per cent. of middle-ear infection. Pure Klebs-Loeffler diphtheria has been rarely seen, and was of a mild type. Scarlet fever, with membranous angina, with pneumonia, diphtheria, and with otitis media, has occurred in several cases, varying greatly in the intensity of the different complications, but showing uniformity in the presence of the streptococcus. An unusually large percentage of the relatively rare scarlatinal arthritis has appeared. And in violation of the general rule, Klebs-Loeffler diphtheria has, in a number of instances, accompanied the scarlatina from the onset, while the streptococcus has appeared sooner or later in nearly all. Pertussis and measles have shown unusual tendency to grave and persistent pulmonary complication, and the general tendency to extensive adenitis with an unusual number of suppurations marked by tardy recovery has been the rule.

It is to secure an expression from my associates in this Section, believing there is profit in comparison, that I present these few not well-classified observations, and I would like to ask the question: "Is this a streptococcus year?"

Treatment.—Since it appears, from the deductions of numerous competent observers, that it is the mixed infections that are the most intractable and fatal, whether by symbiotic action intensifying the toxicity of their products, or by the induction of fatal anemia by the prolonged demand for the antitoxin substance from the overworked blood-regenerating organs, it stands to reason and is apparently borne out in practice that three distinct lines of therapy must be followed in every infectious disease: 1. Prophylactic, as against the additional development of any other septic organism: All points of entrance, especially catarrhally-affected mucous areas, which under these conditions furnish rich culture-media for pathogenic micro-organisms innocuous under ordinary conditions must be carefully guarded by frequent application of local antiseptics. 2. Specific antitoxin treatment should be thoroughly employed, even when the presence of the specific toxin-producing microbe is not demonstrable, especially in infections that are favorable to others through some law of affinity not well known, and particularly during known prevalence of other infectious diseases, as in epidemics. 3. The application of the best-known principles of hygiene, with all the medical and dietary agents that go to promote healthful metabolism and powerfully reinforce the antitoxin-producing processes of the body, the great *vis medicatrix naturæ*.

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DISCUSSION.

DR. C. G. SLAGLE, Minneapolis, Minn.—All radical reforms, so far as I know, have met with more or less opposition, and in many instances, even with ridicule. This was the case even with the great discovery of Jenner. He was caricatured and denounced as a visionary, and some of the medical journals of the day even printed cartoons showing horns growing out of the heads of children, the supposed results of Jenner's ideas and practice. Professor Cotton is among the pioneers in a new field, which we older men appreciate. Bacteriology is opening up a new field which will materially aid us in that very intricate subject of diagnosis. In the end there is bound to be a revolution in medicine, but if you push it, as Professor Rotch has endeavored to do; if you attempt to thrust these new ideas upon us all at once, the effort may result in failure, or at least it will retard progress. When I received Professor Rotch's book I was intending to lecture the next day on struma. I could not even find the word "struma" nor "scrofula" in the index, the appendix, in a foot-note or in a marginal reference. I did not find the word "dysentery." I looked further and did not find "croup," nor the word "colic." The familiar one, "diathesis," was not in the book. I addressed the author on this subject, and he replied very courteously that in dropping these old and unscientific terms he was only following out the suggestions of the American Pediatric Society. I remonstrated with him, and said that I did not believe that even such a master as he was could, by any one dash of his brush, obliterate all those old landmarks which had become as familiar as household words, not only with the laity but with physicians. You can not take any of the older books on medicine, and not find the words "scrofula," "struma," "dysentery," "diathesis," etc. It is all right enough to admit that these words are unscientific, and we must prepare for a revolution in medicine in the direction suggested in the paper of Dr. Cotton, but it will come better and faster if we do not push it too much. In medicine, as in literature, custom to some extent becomes law. These old medical terms must go in time; they are obsolescent now, and in due time will be obsolete. The paper is tremendously suggestive, and will bear discussion for a long time. The cause of the complication, otitis media, is something which we have just discussed. Streptococcus infection is quite prevalent now; it was probably so before, but was not recognized.

DR. G. M. BLECH, Chicago.—There are few papers left for this session, and I think, therefore, it would be well for Profesor Cotton to favor us with his clinical notes, not to substantiate his claims, but as a matter of record. Concerning the difficulty of changing terms, as suggested by our friend, Dr. Slagle, this is an age of progress, and when we come to consider that certain terms have lost their value or meaning etymologically, they must go. There is no such thing as "scrofula"—there never was—and the only reason we used the term was because we did not know its pathology. We now know nothing but tuberculosis of the glands—"scrofulosis." The demonstration of the tubercle bacillus in the glands, or in the structures attacked is the plain justification of the omission of the word "scrofula." This term meant nothing; it gave only a very vague idea of a disease which was in reality nothing but tuberculosis. The same argument applies to the other terms referred to. They must all go since pathology has given us a definite idea of their nature.

DR. N. P. BARNES, Washington, D. C.—With all due respect to the statements of my friend, Dr. Blech, I have under my charge a large number of children in an out-door clinic, and I see many cases that may be tubercular, syphilitic, or rheumatic. These diseases seem to cross somewhere, or are so intimately associated that we can not say positively: "This is a case of tuberculosis." I do not like the word "scrofula," but there are conditions for which we can not substitute the term "tubercular lymphangitis."

DR. EDWIN ROSENTHAL, Philadelphia.—The last speaker is right. Not every case of lymphatic enlargement is tubercular, nor can we say that each case must have a certain name to indicate a disease. As to the late books, Holt gives "lymphatism" as the name of a disease and this can exist in those entirely free from such specific causes. I have met several cases of lymphatic disease that I am certain—and as certain as the bacteriologist is, who pronounces a cause—were neither syphilitic, scrofulous, strumous, nor tubercular, but simply depended on some condition as yet unknown. It is well to drop terms that give erroneous impressions, but we should do so at a slower pace, and when we do, we should have correct names to give.

I remember cases sent to the Municipal Hospital—the contagious disease hospital of Philadelphia—suffering from "glandular fever" (?). This was neither scarlet fever, nor diphtheria, nor tubercle, nor syphilis, and still it was thought best to send them to this hospital. The bubonic plague is another glandular disease that is not tubercular; and we can go on multiplying, in answer to Dr. Blech. This much we do know: when the term "scrofula" was used we knew that con-

sumption was the danger; its origin might have been syphilis or tubercle; the result was always the same and, hence this old name, which now appears useless, had its value in its time.

DR. G. M. BLECH.—Not every adenitis is tubercular any more than every vaginal discharge is gonorrheal in character. These things have been settled more than one year ago. The fact that certain glands are diseased does not prove that they are tuberculous. There are other forms of adenitis. I referred to that condition formerly commonly spoken of as "scrofulosis," and I assert that it is nothing more than tuberculosis. The use of these vague terms enables us to avoid making a correct diagnosis. By microscopic examination we are able to make a correct one of tuberculosis or syphilis, and then we can determine the particular form of adenitis with which we are dealing.

DR. N. P. BARNES.—We see hundreds of children with swollen glands about the neck. We can not at all times open these and examine them microscopically, nor are we justified in the measure when, under syrup of iodid of iron, these glands assume their normal dimensions.

DR. G. M. BLECH.—How long have you watched these cases?

DR. BARNES.—Some of them for 4½ years and I have never noted any cough or pulmonary symptoms during this time, that would be indicative of incipient phthisis.

DR. BLECH.—In all of these tubercular forms of adenitis there is usually an infiltration of the apices of the lungs, and by physical examination of the apices of the lungs, evidences of pulmonary consolidation can be discovered. A little of the gland can be withdrawn with a hypodermic needle, and the presence of the bacilli of tuberculosis demonstrated by microscopic examination.

DR. A. C. COTTON.—I confess that my sympathies run in the line of the views presented by Dr. Slagle. I make confession to what I consider an error on my part in teaching, i. e., using the old and indefinite terms because they are so convenient. I now believe that I have done my pupils injustice in this respect. The use of indefinite language leads to errors in thinking, and this will eventually crop out in the treatment of our patients. No matter how handy it may be to talk about diathesis and things of that kind, it is not right. I agree with Dr. Slagle that too sudden and sweeping changes are not advisable. We must remember, when we write and speak as teachers or as compilers of statistics or data, or when we make deductions for the whole medical profession, that we must not go over the heads of the mass of the profession. We must go slowly, yet we should always urge ourselves to the point of definiteness and accuracy, keeping as close to the etiology as possible.

Now, how many of you have struggled with a case of so-called diphtheria with a mixed infection and have finally had to surrender to the unknown, although you have worked faithfully, and have learned, perhaps a year later, that some one else has been called in because he cured some patient with diphtheria in the same block, at the time you lost yours. How heart-breaking that is. There is something more than pecuniary reward in the practice of medicine. It may be all right for you to tell some man that he will be well after he has taken your blue mass and salts, because he has an attack of "biliousness"—this is a term which most of us use—but when you touch on the acute intoxication, should you give our whole cause away by using terms which the laity think they understand? For our own protection, is it not worth our while to avoid using terms which the laity think they know all about? The pessimistic views of Dr. Blech are as refreshing as was the cool breeze last night. I am not so pessimistic; I can not make a diagnosis of tuberculosis as early as Dr. Blech thinks he can. He probably can, and I shall look to him to teach us all.

DR. BLECH.—I wish to call Professor Cotton's attention to a little remark much in vogue in my native country. *Am Ende hat Jedermann ein bischen Tuberculose* (after all, everybody has a little tuberculosis).

"We are modifying our opinions about tabes and far more cases of this are amenable to treatment than has hitherto been believed."—*James Nevins Hyde.*

CEREBRAL CYST: REPORT OF A CASE.

BY VAN BUREN KNOTT, M.D.
SIOUX CITY, IOWA.

The object of this paper is simply to add to the evidence which is gradually accumulating in favor of operative interference in these cases, and to urge that those unfortunates so afflicted shall be given a chance for relief by surgery whenever the symptoms seem to make the localization of the tumor possible.

It must be admitted that brain surgery has not yielded the brilliant results which were confidently expected to follow in the wake of the more exact means of localization and improved operative technique. This has been especially true concerning the surgical treatment of intracranial tumors, for it is in just these cases where so much was expected and predicted that the results are as yet disappointing as a rule. However, in considering the application of surgery for the relief of these cases, we should not forget the point made by Ferrier, that we are dealing with a condition which, if allowed to progress without operative interference, is invariably fatal. From this point of view it would appear that the patient has everything to gain and little or nothing to lose from surgery properly applied.

The diagnosis and localization of the tumor are the essential points which must be settled before successful treatment can be instituted, and the most painstaking observation should be exercised that no sign or symptom which will assist in their determination shall be overlooked.

The case which I desire to report possesses no unusual features, but as this subject is one of great interest and practical importance I believe that all cases belonging to it should be reported, that a more definite policy concerning their management may be adopted. I have had some hesitancy about classifying this cyst under brain tumor proper, but Roswell Park says they are to be so classified when they involve the motor centers, as they then produce many of the symptoms of a tumor.

Eddie B., aged 14 years, entered the Samaritan Hospital in June, 1899. His father furnished the following history: About four years ago the boy fell out of a wagon, striking on his head. He was rendered unconscious by the fall and was carried into the house and placed in bed, regaining consciousness in about an hour. He remained in bed about three weeks, suffering considerably with dizziness, headache and inability to stand or walk. He gradually grew better until, at the end of four weeks, he was at play again as though nothing had happened. He continued in good health for about three years, when it was noticed that he was not walking properly: his right leg would drag, and he had a very noticeable limp. About this time it was noticed that his left eye was "crossed." Shortly after this he had a convulsion, which lasted only a few seconds and was not very severe. These attacks became more frequent and severe until at the present time he has from six to eight in every twenty-four hours. From a bright, intelligent boy, he has become rather stupid and unobserving.

Present Condition.—He looks like a stout, healthy boy, well-nourished and of good color. There is complete paralysis of the external rectus of the left eye, with marked, left convergent strabismus. There is no impairment of visual power of either eye; no choked disc nor optic neuritis. As he walks across the floor he drags his right foot, and examination reveals that he has practically no control of the extensors of the leg. The knee-jerk is present, but very weak. The grasp of the right hand is about one-half as firm as that of the left

and the finer movements of the hand are impossible. He answers questions slowly and forgets easily. He complains of almost constant headache. There is a small scar on the left temple, which he says is where he was injured. Soon after his admission to the hospital he had a convulsion, lasting about five minutes. The nurse stated that the right arm and leg were simultaneously first involved, the seizure rapidly becoming general. This order was observed in the subsequent seizures, of which he had from five to eight in every twenty-four hours. The preliminary twitchings of the right arm and leg were very brief and were followed almost immediately by a general involvement of the muscles. Some of the attacks were of the minor variety; the head and eyes alone being fixed for some seconds. Following these attacks he would sleep for several hours, if undisturbed. He stated that it was very difficult for him to remember facts of any kind, and that he could not read as he could not connect the different sentences intelligently.

The nature of the case, together with the fact that he had been treated for about six months before coming to the hospital, with no benefit, seemed to contraindicate any further effort to relieve his condition medicinally, but the steadily progressive nature of the disease rendered interference of some sort imperative. The exact character of the difficulty was in doubt, but the paralysis of the left external rectus and the extensors of the right leg, together with the fact that his convulsive seizures first involved the right leg and arm, and that he had almost constant headache, seemed to indicate a neoplasm situated in the motor area of the brain. On the other hand, the absence of vomiting, optic neuritis and visual defects seemed to count against this conclusion. After carefully weighing the facts it was decided that the source of the trouble was localized rather than general, and I concluded to expose that portion of the motor area of the brain lying in front of the fissure of Rolando on the left side, containing the centers for the complex movements of the leg and arm, and just in front of which is the center for movements of the eye-ball. After the usual preparation, the fissure of Rolando was located by measuring with a strip of tin, which was so cut as to form an angle of 67 degrees. A point was selected on the scalp as lying about one inch in front of the upper part of the fissure of Rolando and at the posterior portion of the first frontal convolution, and an osteoplastic flap, about 1½ inches square, was raised. The bulging of the dura into the wound was very marked. It was incised and turned back, revealing a cyst with gray, glistening walls, presenting much the same appearance as an ovarian cyst. This was about the size of a quail's egg and imbedded in the brain tissue. It was incised, about one ounce of clear, straw-colored fluid escaping. The cyst wall was very thin and was dissected out with considerable difficulty, leaving quite a cavity, the latter being packed with iodoform gauze, the end of which was allowed to protrude from the most dependent portion of the wound, and the flap sutured into place. The gauze was removed at the end of forty-eight hours; the sutures were removed on the eighth day, the patient having made a perfectly uneventful recovery.

Subsequent History.—For the first twenty-four hours following the operation the patient had no convulsive attack; in the next twenty-four he had two, which were very light; and for the next seven days he averaged two slight attacks daily, which were marked more by a general stiffening of the muscles than by active movements. He has had none of these seizures from the tenth day following the operation to the present time. At the time of his leaving the hospital, two weeks after the operation, no improvement could be noticed in his leg, but he could use his hand very much better.

In a letter received from the boy's father, a few days ago, he states that his gait has improved somewhat and he considers his leg better. The strabismus remains unchanged. The boy has had no pain in his head since the operation, and seems brighter and more cheerful. It is, as yet, too soon to consider the relief so far afforded as permanent. However, in these cases a respite of even a few months is appreciated.

The point which I consider this case to illustrate is simply this: Every operation on the brain must be considered as largely exploratory, and promises of a definite result can not be made. Nevertheless, such operations properly performed will do no harm, and whenever in any given case the symptoms point to pathology, the localization of which seems probable, the patient should be given the chance for relief which may follow a properly-conducted operation.

PRIMARY TUBERCULOSIS.

NEPHRECTOMY AND SUBSEQUENT TOTAL RESECTION OF THE URETER: COMPLETE RECOVERY.

BY DUDLEY TAIT.

SURGEON OF THE FRENCH HOSPITAL.

SAN FRANCISCO, CAL.

M. M., aged 42, a commercial traveler, gave the following history: Hereditary antecedents negative; personal antecedents uninteresting; venereal antecedents negative; no ethylism; no arthritism. In the winter of 1895, his trouble began with a dull pain in the back—loin tire—accompanied by polyuria. In March, 1896, he was seized with sharp, shooting pains in the right loin, extending toward the corresponding testicle. Micturition became very frequent and painful. The urine was turbid, and shortly afterward decidedly purulent. He had days of comparative ease, followed, without apparent cause, by a period of radiating lumbar pain, spasms of the bladder and painful micturition. The turbidity of the urine invariably increased after each such attack. No hematuria—at least macroscopic—was noted. His condition did not change perceptibly during the following year, with the exception of frequent chills and severe headache. He was able to work, but always felt miserable. His loss of weight was 15 lbs. Pollakiuria and polyuria continued day and night. The purulent urinary sediment increased in quantity, with no gravel nor calculus at any time.

The patient consulted Professor Jacobi, of New York, in May, 1897, who diagnosed renal lithiasis. During the early part of 1898, he was treated, in this city, for cystitis. I saw him in consultation with Dr. Albert Abrams, July 3, 1898. Palpation revealed rigidity and tenderness over the right kidney and on the course of the corresponding ureter. No tumor was discernible, nor bulging of the loin. The prostate was somewhat enlarged, uniformly, and slightly painful to rectal palpation; seminal vesicles, cords, testicles, epididymes and urethra normal. The urine, acid, sp. gr. 1018, contained an enormous amount of pus, a few red blood-corpuscles, some hyaline casts, and numerous altered epithelial cells. No tubercle bacilli were found, although repeated tests were made by Dr. Abrams at various intervals. In view of the inefficacy of the previous plans of treatment—irrigation, cauterization, various internal remedies—and especially on account

of the failure to find tubercle bacilli in the urine, the vesical lesion was deemed of secondary importance. Harris' segregator was used with very little benefit; from the right side the urine proved remarkably purulent; from the left it was very much less so. Failure to wash the bladder thoroughly as a preliminary measure may account for this unsatisfactory result. Examination of other organs was negative.

A diagnosis of pyelonephritis, probably tubercular, was made.

July 8, 1898, lumbar nephrectomy was performed. Owing to marked infiltration of the perirenal tissues, and the friability of the kidney substance, the subcapsular method (Ollier) could not be used. Morcellement was, therefore, tried, two clamps were left on the pedicle for forty-eight hours and the wound was packed with iodoform gauze. The tissue removed was principally composed of nodular areas, and a series of caseous abscesses with characteristic tuberculous granulations on the walls.

No post-operative shock followed. The amount of urine during the twenty-four hours subsequent to the operation was 580 c.c. The amount of urinary sediment was remarkably diminished already. The urine of the second day—860 c.c.—and subsequently was perfectly clear, for the first time in over two years. Two hours after the removal of the clamps, the patient was seized with agonizing pain in the left side of the chest. Temperature was 39.2, pulse 140, respiration 58. Dyspnea was extreme, cyanosis marked, and there was a small amount of bloody expectoration. The usual cardiac and respiratory stimulants and hypodermoclysis proved useless, but intravenous injection of 1200 c.c. of salt solution caused an immediate favorable reaction. The diagnosis of septic pulmonary embolus was confirmed by radioscopy, and on the third day the purulent sputum contained the same variety of micro-organism —staphylococcus albus—as found in the lumbar wound. The subsequent course of the pulmonary complication was uneventful. On October 15, the wound was still refusing to heal, and the granulations soft, notwithstanding thorough curetting and use of chlorid of zinc, as advised by Roswell Park. The urine was normal, averaging 1100 c.c. daily; sp. gr. 1012.

On December 5, excision of 12 cm. of the ureter was made by the lumbar route. The ureter was hard, enormously thickened and strongly adherent to the adjacent parts, especially posteriorly—adiposclerous periureteritis. During the operation a small cut was made, by accident, in the peritoneum, but was closed immediately and caused no trouble.

On July 1, 1899, fistulæ still persisted and discharged pus intermittently, the patient occasionally complaining of severe pain and tenderness on the course of the ureter. The urine was normal qualitatively and quantitively.

On July 2, resection of the remaining portion of the ureter was done by the anterior retroperitoneal route, as for the ligation of the iliac. The ureter was easily found and followed close to its vesical end, after passing a probe through to the bladder, and was firmly adherent to the psoas fascia, and slightly so to the iliac vessels. A clamp was left at the junction of the bladder and ureter. Sections, made by Dr. Philip King Brown, showed characteristic tuberculous lesions.

The patient is at present in excellent health, generally and locally. His urine is normal and the average quantity daily is 1200 c.c. He passes the entire night without voiding urine. The prostate is hard, slightly irregular, but no longer painful to rectal palpation. He has gained 25 pounds in weight.

Since the interesting discussion—Israel, Kustner, D'Antona, etc.—that followed Tuffier's communication to the congress in Moscow, it has generally been conceded that certain forms of renal tuberculosis should figure no longer in medical or internal pathology, but be admitted to the domain of surgery, in a position therapeutically close to that occupied by neoplasms. The forms of tuberculosis referred to are: 1. The primary chronic form, nephrophthisis, or caseous form, comprising four varieties—nodular infiltration, tuberculous pyelonephritis, massive degeneration and tuberculous hydronephrosis. The first two varieties represent distinct stages of the same process. 2. Primary unilateral miliary tuberculosis, as described by Knowsley Thornton, Newman, and Stewart and Kelly of Philadelphia. This form may, however, be passed without comment, on account of its extreme rarity and difficulty of recognition. Furthermore, the necropsy findings in the case of Stewart and Kelly are too meager to warrant the assertion that the renal lesions were primary. A most searching histologic examination of the tonsils, cervical, bronchial and mediastinal lymph nodes is indispensable before drawing any conclusion in reference to miliary tuberculosis. The frequency of renal tuberculosis varies: 1.67 per cent. of all tuberculous cases (Morris); less than 1 per cent. (Furbringer); 5.6 per cent. at the pathologic institute of Prague. Rilliet and Barthez found 49 cases in 72 necropsies of children. Primary renal tuberculosis is much more prevalent than textbooks would have us believe: Israel found 10 per cent. of his kidney cases suffering from primary tuberculous lesions. Of 21 cases of tuberculosis of the kidney, the same author found 16 with primary renal lesions.

The urine in the most common form of renal tuberculosis—caseous pyelonephritic type—does not often contain tubercle bacilli (Israel, Newman). In tuberculosis of the bladder, on the contrary, they are almost invariably easily found. While a negative result in the bacteriologic analysis of urine is not evidence of freedom from tuberculosis, it must be remembered that the presence of tubercle bacilli in the urine does not necessarily indicate involvement of the urogenital tract. The bacilli may be carried by the blood from distant parts, and be eliminated through the urine without producing any morbid change in the kidney in evidence of their passage. I had proof of this fact in a case of bone and lung tuberculosis which presented, a few weeks prior to death, a marked retention of urine of scleroprostatic origin. Tubercle bacilli were found in the urine on two occasions. A most complete necropsy showed total absence—macroscopic and microscopic—of urogenital tuberculosis. Failure on the part of the kidney to arrest the bacilli may be logically ascribed to either the small number of bacilli or to the pronounced resistance of the renal tissue.

The coexistence of other tuberculous lesions in the urogenital tract, either through primary infection or secondary descending infection, has caused many surgeons to reject operative measures in renal tuberculosis. This opinion, however, is singularly weakened by the knowledge of the great prevalence of the descending form of infection, and also by the disappearance or marked amelioration of vesical symptoms after nephrectomy (Tuffier, Israel). Furthermore, the cystitis accompanying renal tuberculosis is very frequently due to other micro-organisms than Koch's bacillus. Israel found cystitis in 43 per cent. of his operative cases.

Bilaterality of renal lesions is a more serious consideration. Besides being rare—17 per cent. of advanced cases, Vigneron; 14.3 per cent. Israel—the tuberculous lesions in the second kidney, due to ascending secondary infection, are invariably very much less pronounced than the primary. The second kidney is more frequently the seat of ascending pyogenic uretero-pyelitis, amyloid degeneration, etc., which may or may not prove a contraindication to nephrectomy. Cornil proved the possibility of spontaneous cure of renal tuberculosis by fibrocalcareous transformation, or by granulation and cicatrization after evacuation of the tuberculous foci through the urine. But these facts concern the medical forms rather than the surgical, as Rosenstein has shown that marked symptoms seldom develop before the mucosa of the pelvis or ureter becomes involved, or until caseous cavities rupture into the pelvis.

The remote results of nephrectomy for tuberculosis are of great interest. In January, 1898, Bangs collated 135 cases, with only 10 prolonged survivals—over two years. Although complete in many respects and admirably classified, Bangs' communication is necessarily unsatisfactory, inasmuch as it simply mentions the patients' condition at the time the cases were reported by the various operators, many of whom showed undue haste in publishing their work. Israel is more encouraging: of 21 cases, 6 were living—July 14, 1898—one after nine years. Verhoogen (1899) reported 4 cases in good health after two, six, six, and 6½ years. Of 18 cases, Koenig reports 1 well after 12 years, 1 well after 6, and 3 in good health after 2½ years. Tuffier and Bazy have obtained equally favorably results. Two of my personal patients are in perfect health six and 1½ years after nephrectomy.

The points of interest in the case which prompted the present paper are: 1. The perirenal tuberculous infiltration (Guyon), a rare and troublesome condition, complicating both the operation and the subsequent treatment. 2. The absence of vesical lesions. The latter fact throws some light on the much-discussed cause of certain symptoms of renal tuberculosis: cystalgia, painful spasms of the body and neck of the bladder, pollakiuria, frequent uncontrollable and painful micturition. Guyon ascribes the foregoing condition to a coexisting infiltration of the vesical mucosa by Koch's bacillus. Le Dentu and most of the English authors—Newman, Roberts, Morris—explain all the symptoms by a renovesical reflex. The case here reported is certainly strong evidence in favor of the reflex theory.

1054 Post Street.

CASTOR-OIL IN THE TREATMENT OF NEURALGIA.*

BY HAROLD N. MOYER, M.D.
CHICAGO.

Three years ago, Dr. A. J. Ochsner, of this city, called my attention to the value of castor-oil in the treatment of neuralgia, particularly of the fifth nerve. He stated that he had seen this substance recommended in a German medical journal, but was not able to give the reference. Since that time I have diligently examined the literature, but have been unable to find the article in question. Dr. Ochsner said that his results in the treatment of facial neuralgia had been brilliant, he having had as many as thirteen consecutive cases that had come to the surgical clinic at Rush Medical College for operation, all relieved, or greatly improved, by the use of castor-oil. While I can not report a series of cases as lengthy and successful as those treated by Dr. Ochsner, yet the results of this method in my hands have been superior to those of any other treatment.

During the last two years I have treated about fifteen cases of neuralgia by this method, but only seven of these were under observation sufficiently long to enable one to speak definitely of the results of the treatment. Five of these were neuralgias of the facial nerve, and two were typical cases of brachial neuralgia. Both the latter were comparatively recent in development at the time treatment was begun, and one of the cases of facial neuralgia had begun but two weeks before. Of the cases of brachial neuralgia, one had lasted one and the other two weeks. The one of the shorter duration was exceedingly severe and had been under the care of a competent neurologist for more than a week. Electricity, and other remedies had been employed, but without giving the slightest relief. This patient was given a large dose of castor-oil at 1 o'clock, and by 4 the pain in the arm had largely decreased; the following night he rested well and the next morning the pain had practically ceased. He took three or four doses of the oil afterward; there was no return of the pain.

An acute, and recent case of neuralgia of the inferior dental nerve was cured in two weeks. The pain began in the inferior dental and at the end of two weeks had extended to the middle division of the facial nerve. The pain was very severe, but the case was entirely cured after a two weeks' course of castor-oil.

The results in acute neuralgias have been, as might be expected, better than those observed in the chronic, but even in the latter, only one failure can be charged to the method. A patient with a neuralgia of the third division of the nerve on one side continued the treatment for between two and three weeks without the slightest improvement in the symptoms.

Another case was that of a man aged 34, who had typical tic douloureux which began in the left supraorbital branch at 17 years of age. The duration, therefore, at the time he came under observation, was seventeen years. The pains were distinctly paroxysmal, coming on at periods of from about five minutes to an hour. At the time he came under observation, all three branches of the left side were involved, and he came asking for operation, having heard that section of the nerves sometimes improved these cases. The pain had been so severe as to markedly impair his general health, and there had been a marked loss in weight. The administration of the oil was followed by a prompt improvement of the pain, and, while the patient can not be said to have been cured, as the spasm remains and there are occasional twinges of pain, yet he says he is much more comfortable than he has been in years, and if the pain is not more severe than it has been during the past winter, he will consider himself quite well.

Another case was that of a man 37 years of age, who had neuralgia which began on the right side of the face and had lasted for five or six years. Three years ago, the infraorbital nerve was divulsed. Six months before coming under observation, the disease appeared on the left side of the face and he came asking for surgical relief. Treatment was begun, and at the end of a week the pain had entirely disappeared, and there has been no return up to the present time. This case was one of the most brilliant in its results, although it was nearly duplicated by a case of supraorbital neuralgia of fifteen years' duration, which was cured by the administration of the first half dozen doses of the oil.

* Read before Chicago Academy of Medicine.

In the case which was described, where there was no improvement from the use of the oil, an examination of the eyes showed mixed astigmatism and a well-marked eye strain.

The oil is administered in the morning before breakfast, and the dose is from one to two ounces. As a rule, patients have little difficulty in taking the larger amount, though in some cases it was difficult to keep this amount on the stomach. At first patients were left largely to their own devices as to the methods of taking the oil, but later care was taken in directing the preparation, with a corresponding improvement with the ease with which it was taken and with the persistence with which they held to the treatment. Castor-oil, if kept for some time, and as it is ordinarily found, is quite offensive to most people, but it is very much improved by a thorough washing and the addition of a few drops of the essence of anise to each pint of oil. The most efficient means of administration is in ale—preferably Dogshead, or Bass's ale, which contains a large quantity of gas, and which should be poured from the bottle in such a way that the glass contains a large quantity of foam. The oil is poured into the ale, stirred a few times with a spoon, and then may be drunk without tasting the oil. The mixture with the ale forms an emulsion, and there is much less liability of the oil disturbing the stomach. When first administered, the oil acts freely on the bowels, but if it is continued daily, its cathartic effect rapidly diminishes, and it is not infrequent for patients to state that they have but a single movement of the bowels after the third or fourth dose.

An interesting speculation might be entered on, as to how castor-oil acts in relieving neuralgia. That it is not due to the cathartic action of the drug is, I think, clearly shown by the fact that other cathartics and laxatives are of no value in relieving this condition. The physiologic action of castor-oil has not been definitely determined. Butler says that it is a combination of glycerin, fatty acids, and ricinoleic acid. This combination passes the stomach unchanged, and, in the presence of the bile and pancreatic juices, is broken up into its component parts; sodium ricinoleate is formed, which has marked irritating properties. A very significant observation of Butler's is that he is inclined to attribute anodyne properties to the drug, as he has frequently observed that it acted as a sedative in children, in those cases in which no movement of the bowels was produced. Buchheim was the first to claim that ricinoleic acid was the purgative principle, but this has been questioned, some writers taking the view that the purgative principle of castor-oil was due to something dissolved in the oil, and which existed in very small quantity. Late experimental work shows that the older opinion of Buchheim is probably correct, and that the cathartic action is to be attributed to the ricinoleic acid. It is probable that other substances are present in castor-oil which have not been fully identified, and it is possible that this may have some effect on the sensory nerves.

DISCUSSION.

DR. HUGH T. PATRICK—The administration of castor-oil has been my routine treatment for trifacial neuralgia since the fall of 1896, at which time I first learned of its efficacy from Dr. Ochsner. Since then I have employed it in at least a dozen cases, and, with two exceptions, always to the great benefit of the patient. Before determining on its use it is necessary to make an accurate diagnosis. In my experience migraine and other headaches are very frequently miscalled neuralgic, and I wish to emphasize the fact that the castor-oil is of no avail in such headaches. Not having followed the subsequent history of my cases, I am unable to affirm a permanent cure, but I can substantiate the statement of Dr. Moyer that the effect is sometimes strikingly brilliant. I administer the remedy very much as he does.

DR. C. E. PADDOCK—In reference to the sedative action of the oil in children when there is no bowel movement, I have often noticed this action, but ascribed it to the fact that the trouble had probably been in the small intestine, from where it had been carried down into the lower bowel, and the cause of the trouble was in this way removed without any bowel movement. I thought it due to the mechanical rather than the physiologic action of the oil.

DR. JAMES G. KIERNAN—There are two factors attached to the therapeutic use of castor-oil; a purgative one and—as shown by the untoward effects—an undoubtedly neurotic factor which is certainly due to ricin or phytalbumose, as it is now called. This last has an action on certain nerves not unlike the action of belladonna. In considering the value of castor-oil this influence must be taken into consideration. Furthermore, such a factor would explain the condition which has been described by Dr. Patrick, in which the constitutional and the local treatment were both markedly affected. This condition should be reversed if due primarily and simply to the purgative factor of the oil. If, however, it is to be assumed that this phytalbumose has a neurotic action, the condition which Drs. Moyer and Patrick have described should be expected to occur.

DR. GUSTAV FÜTTERER—The effect of the oil may be due to either one of two possibilities: 1. Castor-oil is a powerful irritant and, by producing a hyperemia of the gastrointestinal tract, other parts are relieved. It is, in fact, such a powerful irritant that it should not be given in cases in which there is any irritation of the stomach. I have seen very serious results follow its administration under such conditions. There is another point to be taken into consideration, i. e., autointoxication. Many years ago I found that fats of a certain density enveloped bacteria, thus preventing their growth and multiplication. If autointoxication is the cause of conditions as were mentioned, then this action of the oil must be considered.

Leaving aside a direct antiseptic effect, the conclusion I have arrived at is that certain fats envelop bacteria and mechanically prevent their multiplication. It has always been my opinion that the effect of the castor-oil was not only a purgative but also a mechanical one. It envelops bacteria and prevents decomposition in the intestinal canal and a consequent antointoxication. The oil in this respect is better than any other laxative we have.

DR. C. E. PADDOCK—I would like to ask the Doctor how he administers the oil?

DR. FÜTTERER—A good way to disguise the taste is by first putting a tablespoonful of raspberry syrup into a glass, then adding a tablespoonful of cold pressed castor-oil, and then some rum.

DR. PADDOCK—Hirst, in his work on obstetrics, advises giving it in warm milk, but I fail to see how that can disguise the taste.

DR. H. N. MOYER, closing the discussion—I had purposely refrained from enlightening you as to how castor-oil acts in relieving neuralgia, because I do not know. I closed my paper with some hints, as you might say, which would lead me to think that the castor-oil is a very complex body. It may contain substances which have not been identified and which may be apart from the cathartic action of the oil. I have been much interested in what Dr. Fütterer said in regard to its mechanical effect by enveloping bacteria. It might act that way in an intestinal fermentation; nevertheless, the fact remains that there are other substances in the oil, the physiologic properties of which have not yet been studied.

I am gratified that the experience of Dr. Patrick so nearly parallels mine. I think I have had one or two more rather striking successes than he had, but he agrees with me in the main. I agree with Dr. Patrick that in the treatment of migraine the oil is useless. In tic douloureux its efficacy is most marked.

In regard to its administration, elegant pharmacy includes the washing of the oil. Most oils as found in the shops are

somewhat rancid. Castor-oil at the ordinary room temperature soon develops acridity and properties which give it a disagreeable taste. Oil when shaken with water a few times soon loses these properties and a little essential oil will materially improve its palatability. The "sandwich" which Dr. Fütterer describes is an admirable method. I believe the best way in adults is in ale, particularly the Dog's Head and Bass ale, as they contain considerable gas and foam readily. Pour out a couple of spoonfuls of ale so that it foams, drop the oil into the tumbler, stir it a few times with a spoon and then drink it. It is quite tasteless.

RESECTION IN CASE OF UNUNITED FRACTURE OF FEMUR.*

BY I. P. KLINGENSMITH, M.D., F.S.Sc.

Surgeon to Pennsylvania Railroad; Secretary of Indiana County (Pa.) Medical Society; Fourth Vice-President of the Medical Society of the State of Pennsylvania; Member of the AMERICAN MEDICAL ASSOCIATION; Member British Medical Association, etc.

BLAIRSVILLE, PA.

Non-union in a fracture may depend on a variety of causes, some of them inherent in the parts themselves and others connected with the system, but the fact should be borne in mind that a vast majority of these cases are the result of mismanagement growing out of the physician's want of attention and skill.

The history of the case in question, furnished by those conversant with the facts, is as follows: The patient, a man 40 years of age, married, of good family history, and personally physically sound, on Jan. 5, 1899, was, in conjunction with his partner, operating a steam chopping mill, when from some unknown cause an explosion of the boiler occurred, the patient being struck on the left femur, by a piece of steam pipe, producing a fracture at the junction of the middle and lower thirds. A practitioner was called in and had the case under observation for a period of nine weeks, at the end of which time he evidently discovered that his efforts to bring about a favorable result had not been attended with success. The family at the same time becoming dissatisfied, dispensed with his further services and on March 8, called in Dr. A. D. Miller, of Blacklick, Pa., who diagnosed a case of ununited fracture of the femur. On the day following the writer saw the case in consultation with the then attending physician, Dr. W. L. Reed, of Branch, Pa., also being present. The patient was emaciated, nervous and excitable, and presented the appearance of a man whose health had suffered much. After a careful examination the existence of an ununited fracture was corroborated. All efforts at reduction proving unsuccessful, notwithstanding the fact that the physical condition of the patient was not favorable for surgical interference, it was the consensus of opinion that resection was the only method of procedure that would offer a reasonable prospect of recovery; it was therefore decided to operate on the afternoon of March 10.

The operation was done by the writer, with the assistance of Drs. W. L. Reed, of Branch, A. D. Miller, of Blacklick, and Norman Lewis, of Blairsville. A longitudinal incision of sufficient length, and so as to thoroughly expose the parts, was made on the outer aspect of the limb, revealing a *transverse* fracture with the ends of the bones overlapping about two inches, the lower fragment lying to the outside and behind the upper fragment, some fibrous cartilage having been thrown out on the apposed surfaces, forming a false joint. I then sawed about one-fourth inch off each fragment, brought the ends together and fastened them by transfixing with Wyeth's movable steel drills. The external wound was drained, sutured and a sterilized dressing applied, in fact the whole technique was conducted under the strictest aseptic precautions. The limb was immobilized in a firm fracture dressing. The entire operative procedure occupied a very short period of time, and every precaution was taken to avoid shock, yet the patient died sixty hours after the operation.

*Read before the Indiana County Medical Society, Indiana, Pa., May 9, 1899.

THE SMEGMA BACILLUS.

BY OSCAR A. DAHMS.

CHICAGO.

Soon after Lustgarten, of Vienna, published, in 1884 and 1885, his investigations in regard to the micro-organisms occurring in syphilitic foci, and expressed his conviction that these micro-organisms stand in a causal relation to syphilis, it was discovered by Alverez and Tavel, and Matterstock, and confirmed by Cornil, Klemperer, Doutrelepont and others, that in the smegma of the prepuce and vulva of healthy individuals a bacillus could be demonstrated which, neither morphologically nor in staining properties differs from the supposed bacillus of syphilis. The doubt which already existed in many minds concerning the specific nature of Lustgarten's bacillus was increased by this discovery, and it became a much-discussed question whether or not the organism found by Lustgarten in syphilitic lesions should receive any serious consideration whatsoever.

Occurrence.—Although the smegma bacillus occurs with great constancy and in large numbers in the smegma of the prepuce of the male, in the grooves between the labia majora and minora of the female, and about the perineum and anus in both sexes, it has been obtained from cerumen of the ear by Gottstein and Bitter, from the cutaneous surface in various parts of the body by Laabs, and even from the coating of the tongue and teeth by Bunge and Trantenroth. The author has been able to demonstrate the presence of the bacillus in all these portions of the body by the use of the appropriate stains. As a rule, the cleanliness or uncleanliness of the individual was the principal determinative factor in regard to the number of bacilli found on the skin; the longer the secretions of the sebaceous and sudoriferous glands had been allowed to accumulate, the greater was the multitude of micro-organisms revealed by the microscope.

Scrupulous care of the condition of the teeth and of the oral cavity in general eliminates the possibility of finding the organisms on the structures within the mouth.

On that portion of the clothing which is in immediate contact with the integuments of the axilla and perineum, it was possible to find without special difficulty, those bacilli which had been removed from the skin by friction. During the summer months the organisms were particularly abundant on the garments, which is, indeed, to be expected on account of the softening of the accumulated cutaneous secretions by the perspiration, and the favorable conditions thus occasioned for the removal of the sebum by mechanical means, and its absorption by the cloth. Washing of the fabric in water containing a small percentage of alcohol, the subsequent gentle but complete evaporation of a portion of this fluid on a cover-glass held high above the flame of a spirit lamp or Bunsen burner, and the staining of the thin film which remains, will suffice to disclose the bacilli.

For the reasons that the fold of the groin, the arm-pits and the grooves of the umbilicus are not only less easily accessible to cleansing influences than other parts, but

are also so formed anatomically as to most readily retain the secretions of the cutaneous glands, large numbers of smegma bacilli were frequently found to occur in these situations. Moreover, the micro-organisms were often found lodged in the mouths of sebaceous glands.

A careful examination of the sediment obtained from numerous specimens of urine by the method devised and recommended by Haines and Skinner,[1] in most instances revealed the presence of smegma bacilli, although frequently, on account of the paucity of the micro-organisms, the most diligent and long-continued search was required. As might have been expected, the urine of females contained, as a rule, larger numbers of the bacilli than that of males. Grünbaum was able to discover smegma bacilli in the sediment of centrifuged urine of females in 59 per cent. of the specimens examined, but in the urine of males he only rarely succeeded in finding the organisms. Czaplewski observed the presence of the bacilli in sputum.

Morphology.—Little is known in regard to the biologic position of the smegma bacillus. Ledoux-Lebard supposes that the organism is a species of sclerothrix. The bacilli bear a remarkable resemblance to Lustgarten's syphilis bacilli, and to the bacilli of tuberculosis and of lepra, and from a purely morphologic standpoint it is often impossible to distinguish, with any degree of certainty, between these various organisms. As obtained from preputial smegma, the bacilli appear as well-defined, slender, gently-curved rods, with extremities of rounded contour. In length they vary from 3 to 5 microns, in general width from .25 to .75 microns. Marked morphologic variations are frequently manifest—while the bacillus is at one time a long rod of slender appearance, one end of which occasionally possesses an easily distinguishable enlargement, at other times the organism is small, short and plump, and lacks the usual curvature. Sometimes the ends taper gradually to points. Bitter described eight forms of the bacilli as they occur in smegma. The enlargement at one extremity is particularly noticeable in those derived from potato-cultures. In fact, different media produce differently-appearing bacilli; and these variations are no doubt due to the different reactions of the media, and the difference in the rate of development of the organisms. The latter attain the greatest length in potato cultures and on nutrose serum. According to Czaplewski, bacilli from nutrose-serum cultures most closely resemble Lustgarten's syphilis bacilli. Very plump organisms develop on gelatin, and the same medium produces curved rods with enlarged extremities, as well as bacilli of uneven outline. Cultures on Löffler's blood-serum are frequently characterized by short and granular forms.

After staining with carbol-fuchsin methylene blue, the so-called "sporogenic bodies" are not infrequently visible; both ends of a bacillus having taken on the red color, while the middle portion remains unstained. In this case the microscopic appearance of a group of the bacilli will at first sight resemble that of an aggregation of cocci. Gram's method frequently has the same effect. An examination of the bacilli in the hanging drop demonstrates their incapability of independent motion.

Bacilli derived from colonies on glycerin-agar, or from any medium on which the organisms multiply rapidly, reveal, when stained with carbol-fuchsin, evidences of the manner of their development. In such specimens, bacilli consisting of several oval segments are plentiful. Scattered about throughout the field there can be seen numerous egg-shaped bodies identical in size, shape and color with those composing the bacilli, but entirely separate and distinct from the latter. Besides these, the observer will notice the presence of small rods intermediate in length between the two forms mentioned. Developing colonies examined at intervals show an alternate preponderance of the long and of the short organisms.

The most rational conclusion to which a consideration of these facts leads is that each bacillus splits up into a number of oval bodies, which grow in length until they have developed into bacilli. When the organism has matured, it undergoes the same process of division, breaking up, in its turn, into small protoplasmic masses which subsequently increase in size.

Differences in the degree of curvature possessed by different bacilli are apparently dependent on the position of each organism in the colony. Those bacilli forming the innermost circles in the colony show the greatest curvature, those composing the straight filaments display none at all.

The writer's attempts to stain bacilli in syphilitic lesions and secretions by the methods of Lustgarten, De Giacomi, and Doutrelepont, made with the intention of comparing the bacilli of Lustgarten, if found, with those present in smegma, were invariably unsuccessful.

Staining.—The smegma bacillus, although peculiar in its behavior toward tinctorial solutions, is readily stained for microscopic examination. Ordinary carbol-fuchsin may be employed to good advantage when there is no necessity for resorting to the more complicated tinctorial methods designed to differentiate this organism from others. A fresh solution of this stain will impart its color to the bacillus after an application of a few minutes' duration. Gentle heat will hasten and favor the staining process.

To prepare a specimen of the organism a small quantity of smegma may be obtained from the prepuce of the penis of the male, or from the vulva of the female, and spread on a clean cover-glass. This film is then dried and fixed in the usual manner, in the flame of a Bunsen burner, care being observed that the specimen is not charred by the application of too high a temperature. The glass having been allowed to cool, the solution of carbol-fuchsin is applied, and left in contact with the organisms for some minutes, the staining-fluid being at the same time carefully heated. Hereupon the preparation is washed thoroughly in water, and, if a permanent slide be desired, dried and mounted in Canada balsam. The observer who is familiar with the appearance of the smegma bacillus will experience no difficulty in distinguishing this micro-organism among the numerous other forms of bacteria constantly present in smegma.

Another convenient process for the preparation of specimen slides, and one which possesses the advantage of being a double stain, is the following: Hot anilin-fuchsin is first used, and after having remained on the cover-glass for a short time, is washed off, and the specimen decolorized by means of 5 per cent. sulphuric acid. Methylene blue is employed as an after-stain. Smegma bacilli remain red, while other organisms assume a blue color.

Basic aniline dyes serve as tinctorial agents, and the methods of Gram-Weigert and of Gram also succeed in staining the bacillus. The latter's method is, however, not a useful process for purposes of differentiation.

Bacilli which Czaplewski obtained from cultures one or two days old showed a remarkable resistance to decolorizing solutions. The red color of anilin-fuchsin

1. An Improved Method of Detecting Casts in the Urine. Walter S. Haines, A.M., M.D., and J. E. Skinner, M.D. THE JOURNAL, Jan. 29, 1898.

could not be removed by 5 per cent. sulphuric acid, 30 per cent. nitric acid, alcohol, sulphuric acid-alcohol, hydrochloric acid-alcohol, nor even by the subsequent application of methylene blue. This resisting power of the bacillus has frequently been made the basis for differentiation, but it will be seen later that those differential stains which have from time to time been devised have not been universally applicable. By boiling in alkalies and alcohol the resistance to decolorization is lost.

Cultivation.—After the discovery of the smegma bacillus, attempts were immediately made to cultivate the organism, but in spite of the most scrupulous care such efforts constantly resulted in absolute failure and until quite recently, pure cultures of smegma bacilli had never been produced. Doutrelepont claimed to have obtained colonies which Bienstock and Gottstein considered to be growths of the bacilli, but the efforts to prepare pure cultures therefrom were not attended by success. To Hugo Laser of Königsberg is due the credit for having made, in 1897, the first successful cultivation experiments, and for having isolated the bacillus on suitable media for the first time.

Laser's success was attained accidentally, while he was in pursuit of an entirely different object. This observer began his experiments for the purpose of pursuing studies in regard to syphilis, and with this end in view, prepared numerous slides from the secretions of ulcera dura and condylomata lata situated at the anus and on the scrotum. After the preparations were stained with an aniline dye, large numbers of micro-organisms were visible under the microscope. Because of the resemblance existing between syphilis, tuberculosis and lepra, Laser then stained his specimens in the manner originally devised by Koch for the tubercle bacillus, viz., carbol-fuchsin, nitric acid, alcohol, and methylene blue. Bacilli were thus disclosed which resembled those of tuberculosis, and displayed the characteristic red color. Having satisfied himself by very careful examinations that his patients were not tuberculous, Laser excised a number of condylomata and ulcers, but failed to find the same bacillus within the syphilitic tissues. Consequently, he regarded the micro-organisms not as syphilis bacilli, but as the bacilli of smegma.

Slants of agar-agar with their surfaces daubed with sterile human blood were prepared, and, after these had been kept in a brood-oven for twenty-four hours, to prove their perfect sterility, were inoculated. A similar medium was poured into Petri dishes, and inoculations made on the surface thereof.

Small colonies developed, which resembled colonies of diphtheria bacilli or of streptococci, and proved to be pure cultures of smegma bacilli. These micro-organisms were transferred to blood-serum and glycerin-agar, with the result that small drop-like colonies formed along the path of the needle. Cultivation was then attempted on the ordinary media, and the following observations made:

No development occurred on gelatin. On agar slants and dishes a sparse growth took place after several days, a temperature of 37 C. being maintained. In peptone-water and in bouillon a growth was hardly noticeable.

In glucose-bouillon a marked development was manifest. Stab-inoculations in agar and glycerin-gelatin developed but slightly, and only in the upper part of the path of the needle, with no extension over the surface of the medium. After three days no growth could be seen on potatoes, but on scraping the surface the presence of bacilli was demonstrable.

No great length of time had elapsed after the completion of Laser's observations, when Czaplewski, engaged in making cultures of gonococci on the nutrose-serum-agar recently recommended by Wassermann, accidentally observed the development of colonies which were shown by tinctorial and microscopic investigation to be composed of smegma bacilli. From these first small, irregularly rounded colonies on nutrose-serum-agar, Czaplewski then obtained, by means of direct transference and fractional cultivation, pure cultures on serum-plates. He demonstrated that a temperature of 37 C. is most favorable for the development of the bacilli, although at 23 C. a growth still occurs.

In his cultivation experiments the author resorted to the means used by Laser, in order to obtain the first colonies. Agar slants were smeared with human blood, under the strictest precautions of bacteriologic cleanliness; when no growth occurred after forty-eight hours in the brood-oven, at 37 C., the slants were regarded as sterile, and were then inoculated with smegma. As these experiments were carried out during warm weather, no brood-oven was required for the growth of the organisms for after several days a development of bacteria was noticeable. Numerous small round colonies had formed, which the microscope showed to be made up for the greater part of micrococci, while smegma bacilli were sparingly interspersed among these organisms. Attempts to separate these on glycerin-agar by means of smear-culture failed, as the micrococci developed so enormously in excess of the bacilli as to make any efforts at separation in this manner useless. The original slants were therefore observed for several days longer, and there then could be seen a few small, delicate, irregularly-rounded, grayish-white colonies, which microscopic and tinctorial examination proved to consist of smegma bacilli. As a limited number of cocci could still be detected among the bacilli, the growths were cleared of these in the following manner: A small portion of the colony was removed on a sterile platinum wire and transferred to 50 c.c. of distilled water. After thoroughly shaking the liquid, for the purpose of disseminating the organisms throughout its mass, 1 c.c. of the water was spread over the surface of glycerin-agar in a Petri dish. In this way pure colonies of smegma bacilli were obtained. Various other media were then inoculated with the organisms, the brood-oven was put into service, a temperature of 37 C. maintained, and the following results observed: *Agar: Smear-Culture.*—After several days a growth was visible. The color of the latter was grayish. The bacilli had not developed abundantly. *Agar: Stab-Culture.*—The development of the bacilli was limited to a slight growth in the upper portion of the track of the needle. The surface of the agar remained free from the organisms. *Glycerin-Agar.*—After twenty-four hours a growth could be distinctly seen, occurring as a grayish, well-defined layer. After forty-eight hours a thick, yellowish or grayish white growth had formed. The margins of the latter were sharply defined; indented, and lobulated in appearance. *Peptone-water.*—The growth in this medium was flocculent, and grayish in color, but exceedingly scanty. *Bouillon.*—After twenty-four hours a slight whitish sediment was noticeable. After forty-eight hours the bouillon was clouded, and a sediment had formed, which, upon shaking the tube, loosened itself in shreds. *Potato.*—A scanty growth was apparent after several days, in the form of a yellowish layer, of irregular shape and indefinite outline. *Loeffler's Serum: Smear-Culture.*—After twenty-four hours a growth was scarcely visible,

but after forty-eight hours colonies had developed. These were of a yellowish-gray color, and varied in size from minute specks to areas 1 mm. in diameter. By confluence these colonies later formed a distinct layer.

The following results were obtained with gelatin media, kept at room-temperature for five days: *Gelatin: Smear-Culture.*—The material which had been transferred to the surface of the slant increased in size and apparently became denser, finally forming a thin round layer resembling a drop of wax. Besides this, no colonies were visible. *Glucose-Gelatin: Stab-Culture.*—At the point of entrance of the needle into the medium, a sparse development was visible. The surface was not invaded by the developing organisms. The growth which developed was yellowish in color and sharply outlined.

The reliability of milk as a culture-medium for the smegma bacillus was first pointed out by Grünbaum.

In appearance, colonies of smegma bacilli, when examined under the microscope, simulate wax to an extraordinary degree. They are white, or nearly so, dense and finely granular with sharply-defined margins. Although the colonies are by no means always circular, yet their circumferences present no sharp, angular indentations nor fibrillar outgrowths, but when irregularities in outline exist, they are met with in the form of rounded lobules and extensions.

By gently pressing cover-glasses upon colonies of smegma bacilli, and staining the films thus obtained, the writer was able to occasionally discover a similarity in the manner of growth of the colonies of smegma bacilli and that of colonies of the bacilli of tuberculosis. Under magnification the bacilli were seen to lie behind each other with their long axes in the same line, sometimes forming portions of concentric circles, sometimes branching out at various angles and producing long, parallel, interrupted filaments. Wavy lines of bacilli were occasionally visible. The striking and characteristic features were the end-to-end approximation and the frequent parallel arrangements of the filaments thus formed. Large flat colonies on glycerin-agar gave the best results in this work. The inability to prepare specimens similar to each other in appearance, the author is inclined to attribute partly to the difficulties of growth in unfavorable media, partly to imperfect means for obtaining correct cover-glass impressions. Obviously the colonies would develop in the most characteristic manner on those media which favor a rapid and luxuriant proliferation of the organisms composing them. A study of the structure of the colonies in the hanging drop gave similar, but not equally good, results.

Inoculation Experiments.—It has frequently been asserted that a perfect identity exists between Lustgarten's bacilli and the bacilli of smegma, while observers no less eminent than those who hold this view, have maintained that these organisms are distinct species. The discussion of this question continued for many years, and only after Laser had succeeded in producing pure cultures of the smegma bacillus could it be asserted with any degree of positiveness that although Lustgarten's bacillus may or may not be the specific cause of syphilis, the smegma bacillus, at any rate, is free from pathogenic properties.

Subcutaneous and intraperitoneal injections of smegma bacilli into white mice and guinea-pigs failed to produce the slightest disturbances in the health of these animals. Similar injections were made into the systems of rats and rabbits with the same results. An injection into the anterior chamber of the eye of a rabbit was followed by transient inflammation which subsided without evil effects. Dogs and cats were then experimented on. Neither local nor constitutional manifestations of an abnormal condition were produced. A number of these animals were killed after from four to six weeks, others after four months, and a careful examination of all organs made, but no traces of disease were found. Several animals were exposed for a time to the debilitating influences of close confinement and poor food after the injections were made, but the ultimate result of the introduction of the micro-organisms remained the same. Even when subcutaneous fractures, tissue-lacerations and injuries to abdominal viscera were artificially produced in an endeavor to cause a localization of the bacilli, there could not be found, post-mortem, any evidences of such centralization having been brought about. Experiments on pigeons and fowls served to add further proofs of the non-pathogenic character of the bacillus. While engaged in the above work, the writer had an opportunity to inject smegma bacilli into the peritoneal cavity of a monkey. No immediate disturbances followed, and after seven months the animal was not only still alive, but apparently in the best of health. Feeding experiments were unproductive of deleterious results.

Implantations of pure cultures of smegma bacilli into small incisions made by the writer in the skin of his own arm, interfered in no way with the rapid repair of these slight cutaneous wounds.

(To be continued.)

SPECIAL ARTICLE.

RELATIONS OF PHARMACY TO THE MEDICAL PROFESSION.*

I.

In discussing the relations of pharmacy to the medical profession as especially involved in the advertising and patronage of medicinal articles, a preliminary résumé of the object and purpose of the Pharmacopeia may not be out of place, since by its standard alone can the ideals of pharmacy be compared.

A brief retrospect of the history of medicine will disclose the slow growth by which uniformity in medicine has been fairly secured throughout the world, by the creation of pharmacopeias. During the Middle Ages medicine had largely lost the prestige gained by its early classic writers, such as Hippocrates, Æsculapiades, Dioscorides and Galen. The confections of Andromachus and Damokrates, the toxicology of Mithridates, the "Quid pro Quo" of Zanensis, the "Antidotorium" of Nicolaus, had been superseded by superstition and fetichism, the "abracadabra" and "tabula smaragdina" of Hermes Trismegistus, the incantations and the amulet, until the mysticism and fanaticism of the alchemists—the philosopher's stone and the elixir vitæ—held complete sway over Europe.

Not until the advent of Paracelsus, in the fifteenth century, did the medical world emerge from this condition, which had retarded civilization for centuries, and lay a foundation for scientific development and progress. The secrecy and lack of uniformity in medicines during these times prompted various medical authorities to collect and publish information concerning the remedies then in use, under the name of Dispensatories. During the sixteenth and seventeenth centuries these dispensatories became so numerous as to cause considerable confusion in the identity and uniformity of medicine, through the rivalry of their respective authors—every medical man of any considerable reputation feeling it incumbent on himself to issue a Dispensatory, with a finely-engraved likeness of the illustrious author for title-page. This redundancy of medical formulas led to the formulation of pharmacopeias, published by the authorities of the large cities to secure some degree of uniformity for their respective localities. At the close of the eighteenth century nearly every capital of Europe had a pharmacopeia, and

* The first of a series of articles to appear weekly in THE JOURNAL designed to correct the abuses from advertising and patronizing pharmaceutical specialties.

these have since been superseded by national works for their respective countries, compiled under the direction of government authorities.

The pharmacopeia for the United States first appeared in 1820, and is revised decennially by a committee elected by a convention, to which the national and state medical and pharmaceutical associations and medical and pharmaceutical colleges are entitled to delegate representation. While the United States Pharmacopeia is not legalized by Federal statute, it is recognized by the medical branches of the Government—the Army, Navy and the Marine-Hospital Service—each branch being represented on the committee. It is, however, made the legal standard in each state of the Union, through the pharmacy acts, and also through the pure food and drug laws of many states.

THE PHARMACOPEIA.

The importance and value of the Pharmacopeia to the medical profession is best illustrated by a definition of its functions, viz.: "An authoritative compilation establishing standards for the identity, purity, strength and quality, and giving directions for the preservation, purification, valuation, preparation and compounding of drugs, chemicals and medicinal substances. Its object, in brief, is to insure uniformity of drugs, chemicals and medicinal substances. That this is the highest therapeutic desideratum is indisputable. Yet to many prescribers the Pharmacopeia is a closed book. The present United States Pharmacopeia contains nearly one thousand articles, but statistics have shown that the average prescriber employs only one-fourth of these official articles, i. e., of 100 articles prescribed, only about twenty-five would be official ones. That the Pharmacopeia will never comprise all substances used in medicine is self-evident. Yet in the degree that medicinal substances and their preparations respond to the principles governing the introduction of articles into the Pharmacopeia—comply with the general requirements for official medicines—in the same degree will their identity be established, uniformity in prescribing be secured, and their true position in medical literature for the advancement of science be attained.

THE NOMENCLATURE.

The nomenclature of a science—its language—must be constructed on a scientific basis, and be kept pure and undefiled. It should be systematic, yet as euphonic as possible, in order that its terms be not too unwieldly, simple yet descriptive, and practicable of facile application. In all branches of medicine, save that of pharmacy, this rule is strictly adhered to; a few exceptions associating the names of some earlier medical authorities with some important discoveries in anatomy and physiology.

Formerly, in designating an especial make of a medicinal article, or pharmaceutical preparation, it was the custom to affix the name of the maker, and the great chemical and pharmaceutical manufacturing establishments of the United States were largely built up on this basis; soliciting preference for their products because of superior facilities and improved processes of manufactures, one well-known firm even distinctly repudiating any other claim for superiority of products than the exceptional facilities for securing crude material and the technical skill acquired by long experience in catering to the wants of the medical profession. The only protection thereby created was for the "brand" afforded by the firm name or symbolic trade-mark, and those products were therefore free from all secrecy and monopolistic features.

Some of the historic firms observed ethics, zealously guarded the interests of the medical profession and often contributed the results of their wide experience to the pharmaceutical literature. Many official articles and preparations have been perfected by the labors and researches of a venerable manufacturer, formerly a leading member of the AMERICAN MEDICAL ASSOCIATION, and also several of the leading houses to-day contribute, through their staff of experts, not only to pharmacy and chemistry, but also to biology and pharmacology, through their often unusual opportunities and superior laboratory equipment. While these houses are engaged in commercial pursuits, they are closely related to medicine and pharmacy and should be entitled to some consideration. As a rule their products are supplied only to the "legitimate trade," and are not advertised to the laity, nor is their use for self-medication in any manner encouraged.

PROPRIETARY PHARMACEUTICALS.

The advent of the "proprietary pharmaceuticals," so-called in distinction from the domestic or "patent" proprietary medicines, is of more recent origin. These are mostly designated by fancy or arbitrarily-selected names, sometimes more or less descriptive of their derivation, therapeutic application or manufacture. They usually have a purported formula, or rather the ingredients are enumerated, but not a few are of secret composition. Eventually they are exploited to the laity, which is rendered comparatively easy owing to the simple euphonic name of the article, often also suggestive of its indicated use. The physician has often been used as a cat's paw for introducing them to the laity. One popular "emulsion," advertised in the newspapers and all available exposed places generally throughout the country, as a "cure for consumption," carries testimonials from two of the most noted medical teachers in the West during their lifetime.

The manufacture of these "proprietary pharmaceuticals"—each a purely commercial venture—is usually engaged in by somebody who has been connected with a wholesale drug house, some unsuccessful "doctor," and occasionally a druggist, but rarely a pharmacist or chemist. The history of one of the most "successful" earlier ones of these, whose "proprietor" is reputed to have left an estate, a few years ago, of $800,000 as a result of his venture, will illustrate the *modus operandi*. Engaged in the sundry department of a wholesale drug house, the thought occurred to the prospective proprietor that an antiseptic solution, non-irritant and fairly inodorous, would be "a great hit," and a list of such antiseptic agents was secured from an accommodating medical man, who also suggested the name for the preparation, in honor of a then celebrated Sir, now Lord. The idea took like wild-fire. Medical men and surgeons everywhere used the preparation and recommended it. To-day it is found in dry goods stores, groceries, and, in fact, nearly everywhere. There is one thing in its favor, as might be said of most of these external antiseptic preparations, it does no harm even in the hands of the laity.

In many of these preparations there is no secrecy as to composition, in fact, claim for medical preference is usually based on the attractiveness of the preparation, as indicated more or less completely or intelligibly by the formula. But there is usually a "kink" in the formula or method of preparation, which prevents its successful imitation, and enables the proprietor to distinguish the genuine article "from spurious substitutes made by unscrupulous druggists." This feature of detecting "base imitations and counterfeits" has indeed become an important branch of this proprietary medicine business, some of these concerns maintaining a special department for the detection and punishment of offenders. One of the largest detective bureaus in the country makes a special feature of soliciting the patronage of these manufacturers, offering its services and naively suggesting that few methods are so effective in exploiting an article and stimulating a languishing demand as a vigorous campaign against real or imaginary "counterfeiters" of their goods.

POLYPHARMACY.

While the tendency in scientific therapeutics is to simple remedies, still combinations and mixtures are extensively used and will probably always be prescribed. Some of the most frequently employed, and by many considered the most valuable, remedies originated, as have the present day proprietary medicines, through prescriptions of more or less prominent medical men, but, unlike these, the complete formulas and methods of preparation were published for the benefit of medical and pharmaceutical science. Many of them were recognized in various pharmacopeias, under descriptive titles, the name of the originator surviving only as a synonym. It may be interesting to note some of the best known of these now official preparations in the United Staes Pharmacopeia: Fowler's solution—liquor potassii arsenitis; Donovan's solution—liquor arsenii et hydrargyri iodidi; Huxham's tincture—tr. cinchonæ comp.;

Turlington's balsam—tr. benzoini comp.; Basham's mixture—liquor ferri et ammonii acetatis; Griffith's mixture—mistura ferri comp.; Blaud's pill—pilula ferri carbonatis; Tulley's powder—pulvis morphinæ comp.; Dover's powder—pulvis ipecac et opii; etc. Had this class of preparations been kept secret and their names monopolized through copyright or trademark, they would have been excluded from medical literature and the profession would have been deprived of many valuable remedies.

The use of ready-made compound preparations or mixtures, aside from therapeutic considerations, has some advantages which account for their existence: 1. In their great convenience for the busy practitioner, saving time and labor involved in formulating a prescription. 2. They seem to have become an almost necessary recourse to many young and inexperienced prescribers, who are either incompetent or too timid to venture into formulating an original prescription for fear of incompatibilities, overdosage and for other reasons. On the other hand, the "habit" has many disadvantages, realized by every educated and experienced physician, not necessary to here enumerate.

THE REAL ADVANCE AGENT.

There is one phase, however, which has not been pointed out before, viz., that the armamentaria of too many hospitals, clinics and dispensaries consist largely of this class of preparations, charitably donated by the manufacturer. Here they are used to the exclusion of other remedies, with the result that the average medical student's ideas and experience concerning medicines are largely confined to the proprietary articles, which his "professors" used in their demonstrations. He acquires but little knowledge of pharmacy during the course and, when he begins to practice, he prescribes proprietary remedies and becomes the "advance agent" of the proprietor.

Aside from the objections to the use of proprietary pharmaceuticals, through lack of satisfactory knowledge of their composition and that from the habit of their prescription, the art of prescribing and the medical literature are endangered and self-prescription by the laity is encouraged, there is above all the serious objection that from their character their identity, strength and purity can rarely be determined by chemical or physical tests, and that their therapeutic value must consequently be estimated through their therapeutic or physiologic effects, which must necessarily, from such complicated mixtures, be largely empirical. When to this is added the ever-present danger of altering or changing the preparation by the manufacturer, through the best of motives, which may, however, unfavorably affect its therapeutic use or value, the status of these preparations becomes exceedingly questionable, from the fact that they are regarded as the exclusive property of the manufacturer "to own and control and to do with whatever he pleases." It is therefore not only desirable, but a medical necessity, that a systematic attempt should be made to evolve a plan whereby the legitimate remedies of this class may be made to respond to the ethics of medicine and the requirements of scientific pharmacy.

Therapeutics.

Habitual Constipation of Spasmodic Origin.

Most cases of habitual constipation proceed from atony of the bowels, but there is a variety due to spasmodic action, and the treatment of the former is directly injurious in the latter, which Romme describes in the *Presse Med.*, March 31, as characterized by hard, small-calibered feces, the subject a neuropath. The constipation is ordinarily of recent date, and is attributed to some particular cause, such as an indiscretion in diet. The abdomen is not distended, the intestines are not painful on pressure, but the abdominal wall is contracted. Hydrotherapy, copious lavages of the intestines, and modification of the diet usually cure the constipation in a few weeks. Purgatives are injurious; sedatives are indicated. One or two pills of belladonna, .01 gm. each, taken before breakfast, or tincture of opium, five drops a day.

Treatment of Malarial Fever.

The mere administration of quinin pills or capsules in malaria is not always sufficient to cure the disease. The following prescriptions have been recommended by eminent clinicians:

℞. Quininæ sulphatis ..... gr. x
Capsici pulv ..... gr. iii
Opii pulv..... gr. i
M. Sig. One dose. —*Alonzo Clark.*

AFTER PAROXYSMS HAVE BEEN ARRESTED.

℞. Tinct. iodini
Tinct. ferri chloridi
Tinct. sanguinariæ—equal parts.
M. Sig. Twelve to fifteen drops after each meal.
—*Carpenter.*

IN OBSTINATE FORMS.

℞. Ferri ferrocyanidi
Pulv. guaiaci resinæ āā..... 3i
M. et. ft. Chart No. xii. Sig. One powder thrice daily.
—*Ellis.*

FOR RECTAL INJECTION.

℞. Quininæ bisulphatis ..... gr. xv
Acidi sulphurici diluti q. s.
Aquæ q. s. ad..... ℥ii
M. Sig. Inject.

℞. Quininæ sulphatis ..... gr. xlv
Ferri et potassii tartratis..... gr. cv
Aquæ destillatæ ..... ℥iii
Liq. potassii arsenitis..... m. xxiv
M. Sig. 3i from one to three times daily.

IN GRAVER FORMS.

℞. Quininæ hydrochloratis ..... gr. xv
Sodii chloridi ..... gr. iss
Aquæ destillatæ ..... ℥iiss
M. Sig. Use one-half the above quantity as an intravenous injection. —*Barcelli.*

℞. Quininæ sulphatis ..... gr. x
Acidi sulphurici diluti..... m. x
Syr. aurantii 3ii
Aquæ ad. 3i
M. This amount three times a day. —*Fothergill.*

℞. Hydrarg. chloridi mitis
Pulv. ipecacuanhæ et opii āā..... gr. iv
Quininæ sulphatis ..... gr. xvi
M. For four pills. Two to be given at bedtime and two the following morning. —*Claiborne.*

FOR MALARIAL AND ALSO URIC-ACID CONDITIONS.

℞. Quininæ sulphatis
Hydrarg. cum cretæ āā..... gr. xvi
M. et. ft. capsulas viii. Sig. Two capsules each night at bedtime, followed by two drams of Epsom salts in a glass of hot water before breakfast. —*H. P. Loomis.*

IN CHILDREN.

℞. Tinct. eucalypti
Alcohol āā 3ii
Quininæ hydrochloratis ..... ℥ss
Quinoidinæ ..... ℈i
Acidi chlorici q. s. solution
M. Sig. From 20 to 40 drops five times a day.
—*Zuckermann.*

℞. Quininæ sulphatis 3i
Tinct. ferri chloridi..... ℥v
Liq. acidi arseniosi..... ℥iss
Potassii chloratis 3i
Syr. zingiberis q. s. ad..... ℥iv
M. Sig. Teaspoonful in water thrice daily, after meals.
—*Guice.*

SIMPLE INTERMITTENT IN ADULTS.

℞. Massæ hydrargyri ..... gr. x
Ext. hyoscyami ..... gr. v
Quininæ sulphatis ..... gr. xx
M. ft. pil. No. x. Sig. One every hour during the afternoon, to be followed by salines in the morning.
—*E. J. Kempf.*

IN MALARIAL CACHEXIA.

In addition to eight grains of quinin in capsule on an empty stomach morning and evening:

℞. Liq. arsenici chloridi.....gtt. v
Tinct. ferri chloridi.....gtt. xx
Elixir
Aquæ āā q. s. ad.....3i
M. To be taken three times a day after meals.
—*Da Costa.*

TO CHECK RECURRENT PAROXYSMS.

℞. Pil. ferri carbonatis.....3i
Acidi arseniosi.....gr. i
Quininæ sulphatis.....gr. xl
M. ft. cap. No. xx. Sig. One capsule three times a day.
℞. Quininæ sulphatis.....3ss
Liq. potassii arsenitis.....3iss
Tinct. ferri chloridi.....ʒss
Syrupi zingiberis.....ʒiss
Aquæ destil q. s. ad.....ʒiv
M. Sig. Dessertspoonful after meals.

Bedford Brown says: "In giving quinin, give enough. Sixty grains daily, or ten every four hours, will arrest an attack in seventy-two hours or less. Thirty grains daily in three-grain doses will prolong it to five or six days. Ten grains every eight hours will have more effect on the germs than two grains every hour, and will not make the patient so nervous. In swamp regions the dose for a child between the ages of one day and 8 years is five grains."

Ear buzzing may be controlled to a large extent by simultaneous use of small doses of atropin. —*Aubert.*

In malarial hematuria, prevent by giving quinin in requisite amount at the proper time.

When the kidneys are not acting well it is very hazardous not to administer quinin. —*Sears.*

When improvement has not occurred under quinin and arsenic, methylene blue, 0.25 cg., three times daily.

To reduce temperature, external applications of creosote and guaicol (m. xv.).

When quinin can not be given by the mouth to children the following may be used:

℞. Quininæ sulphatis.....gr. xv
Acidi hydrochlorici sufficient to make soluble.
Aquæ dest.....3i
M. Sig. Inject twenty minims into the cellular tissue of back or forearm, followed by gentle rubbing to aid in diffusion. —*Benson.*

Daland says: "In gastric catarrh or the gastrohepatic symptoms of lithemia, precede the specific treatment of malaria by a short course of broken doses of calomel, and it may be necessary to give quinin by suppository or subcutaneously.

TO CLEANSE THE CHYLOPOIETIC SYSTEM.

℞. Podophyllin.....gr. i
Leptandrin.....gr. ii
Iridin.....gr. i
Ext. nucis vom.....gr. i
Capsici.....gr. i
M. ft. pil. xl. Sig. One or two three times a day for children. —*Kempf.*

Facial Neuralgia.

The following mixture often gives relief:

℞. Butylchloral hydratis
Alcoholi, āā.....ʒiiss
Glycerini.....ʒv
Aquæ.....ʒxxx
M. Sig. One to two teaspoonfuls daily.
—*Progrès Médical.*

Cacodylic Medication.

A. Frassi has been testing cacodylic medication, which has been recommended in high terms in France during the past year. He corroborates its efficacy as a peculiarly advantageous form of administering arsenic, especially in respect to the hemoglobinogenesis and cytogenesis induced, although it is less effective in promoting hemoglobinogenesis than preparations of iron. It seems to have a remarkable and more or less specific action in surgical tubercular affections. There was always an increase of weight and of the amount of urea eliminated in every case treated. Seven observations are reported in detail in his communication to the *Gazzetta degli Ospedale*, March 14.

Diabetes Mellitus.

℞. Strychninæ sulphatis.....gr. 1/200
Sodii arseniatis.....gr. 1/50
Codeinæ.....gr. 1/6
Quininæ valerianatis.....gr. i
Ext. valerianæ, q. s., ft. pil. No. i
M. Sig. From one to six of these pills may be given each day.
—*Legendre.*

TO LESSEN THE QUANTITY OF SUGAR.

℞. Antipyrin.....ʒiii
Glycerini.....ʒi
Aquæ.....ʒviii
M. Sig. Teaspoonful every three hours.
—*Josias.*

TO LESSEN THE THIRST.

℞. Infus. cascarillæ.....Oi
Sig. A wineglassful three or four times daily.
—*Da Costa.*

Functional Albuminuria.

℞. Acidi gallici.....3i to 3ii
Acidi sulphurici diluti.....3ss
Tinct. lupulini.....3i
Infusi lupulini, q. s., ad.....ʒvi
M. Sig. Tablespoonful three times a day.
—*Aitken.*

FOR SUBCUTANEOUS INJECTION.

The following is Mennella's formula for a subcutaneous injection:

℞. Iodini.....gr. iii |2
Potassii iodidi, q. s. |
Aquæ destil., q. s., ad.....gr. iii |2
M. Sig. From ¼ to ½ dram (1 to 2 c.c.) to be injected in the course of a day.

MOUSNIER'S FORMULA.

℞. Iodini.....3i 4|
Tannin.....gr. xv 1|
Eucalyptol.....3x 40|
Olei sterilizat, q. s., ad.....3xxv 100|
M. Sig. Inject from ⅛ to ¼ dram (.5 to 1 c.c.).

Evaporation of Peroxid of Hydrogen in Whooping-cough.

The antiseptic and oxidating power of oxygenated water suggested its application to the treatment of whooping-cough, and Baroux, after thoroughly testing on himself the harmlessness of the method, now reports that it will "certainly jugulate every case of whooping-cough within a week." His method is to moisten a couple of old cotton cloths about a yard square, with 80 grams of the peroxid and suspend on a rope across the center of the room, repeating every four hours. This amount corresponds to a closed room of about sixty to seventy-five cubic meters. Two rooms should be used, one for the day and another for the night. The peroxid should be about 12 volumes, and about four liters are required. He gives the following harmless sedative at once:

℞. Tinct. droseræ.....3ss 2|
Tinct. belladonna.....gr. xlv 3|
Tinct. aconiti.....3i 4|
M. Sig. Ninety drops during the day for an adult; dose diminishing with age.

Treatment of Thomson's Disease.

V. Bechtereff attributes this affection to disturbed organic interchanges and, the *Sem. Méd.* states, has been very successful in treating it with gymnastics, electric massage, tepid baths, potassium iodid and antipyrin, to combat the toxic substances produced in consequence of the muscular lesions.

Furunculosis.

To abort the furuncular process:

℞. Liq. ammoniæ.....3i+m. xx
Aquæ.....ʒii
M. Sig. Teaspoonful in water three times a day.
—*Randolph.*

Medicolegal.

Regulation of City Scavenger Work.—The Court of Appeals of Colorado holds, in City of Ouray vs. Corson, that, by virtue of a statute conferring on municipal corporations the power to enact such ordinances as may be deemed necessary for the safety, health, comfort and convenience of the public, and the power to make all regulations which may be necessary or expedient for the promotion of health or the suppression of disease, a city has ample power to create the office of city scavenger, and prescribe the terms on which other persons may do scavenger work. Nor does it consider that it is a valid objection to an ordinance doing this that it does not embrace any specific regulations concerning the manner in which the work shall be done. Whatever may be needful in this regard, it holds, may be supplied by other and succeeding ordinances, as well as that there may be so made, any modifications needed to meet the requirements of changed conditions.

Where the Coroner is a Practicing Physician.—"Can the board of county commissioners legally enter into a contract with, or employ, the coroner of the county, who is a practicing physician, for a period of one year, at reasonable compensation, to furnish medicine and medical attendance for the poor and paupers of the county?" This question was reserved for the Supreme Court of Wyoming, by the judge of the district court, in Baker vs. Board of Commissioners of Crook County. Toward answering it, the supreme court first of all holds that the office of coroner, where the pay is $5 per day and 10 cents a mile mileage for holding inquests, and the same fees as may be allowed the sheriff when he performs the duties of sheriff, is very clearly a "lucrative" one, within a statute prohibiting any person holding a lucrative office from being interested in contracts for the construction of any public building, or work of any kind, namely, of the character of what are usually designated "public works," or from bargaining for or receiving any percentage, or "rake off," as the court says it is sometimes called. But even so, it does not consider the contract in question within the inhibition of that statute. Nor does it see any reason for declaring such a contract to be against public policy. It intimates that if the coroner of a county, who happened to be a physician, should employ himself to make a post-mortem examination, such contract might be obnoxious as opening the door to fraud, and against public policy. At the same time, it points out that the objection that the coroner would probably call on himself to hold the post-mortem examinations for the fees allowed, if he were also county physician, is met by the statute of that state, which contains a proviso that the sections providing for the payment of such fees shall not apply in the case of any physician regularly employed by the county as such. For these reasons, and because the officer in the case presented represents only himself as an individual, and, with reference to the subject-matter of the contract, does not assume to represent, and has no power of authority to represent the county, the court answers the question reserved in the affirmative, holding that such a contract is not subject to any legal objection raised.

"Cancer Specialist" Not Competent Witness.—A regular, practicing physician brought an action to recover $500 for professional services rendered in the treatment and cure of two cancers—one on the face and one on the hand of the party he sued. He obtained a judgment for $350. The testimony which he introduced to prove the value of his services was that of regular, practicing physicians. There was also expert testimony introduced on behalf of the party sued. But the only error complained of by the latter, on appeal, was the striking out of a deposition of a so-called "cancer specialist," on objection to its admission in evidence to show the value of the services rendered. From the deposition it appeared that the witness had testified that he was a cancer specialist, treating nothing but cancers; that he had been so engaged for the preceding five years, but had also followed farming during about four years of that time; that he was not a physician nor surgeon, and had never attended any medical school or college, nor read any course in medicine or surgery; that what he knew concerning the treatment of cancers he had learned from another cancer specialist, whose formulas and recipes he followed, not venturing any treatment of his own, independently of such formulas and recipes. Under such circumstances, the Court of Appeals of Kansas, southern department, holds, appeal of Griffith vs. McCandless, there was no error in excluding the deposition on the ground that it itself showed the witness to be incompetent to testify as an expert. Nor does it consider that the right to make this objection to the deposition at the trial of the case, when it was offered in evidence, was waived by the plaintiff appearing at the taking of the deposition, and not then objecting to the testimony of the witness on the ground of his incompetency. On the competency of the witness, it declares that little need be said. Indeed, it thinks it enough to say that the proper testimony concerning the value of the plaintiff's services was that of men of science—physicians of training, knowledge, and experience. The witness testified that he was not a physician, and it did not appear that his preceptor was himself a physician. His opinion was based on reading or study. Hence, the deposition was properly excluded; and the judgment for the plaintiff is affirmed.

State Quarantine vs. Interstate Commerce.—In the bill of complaint filed with the Supreme Court of the United States by the State of Louisiana vs. the State of Texas, it was charged that the health officer of the State of Texas, by rules and regulations framed and put in force by him under the laws of Texas in respect to quarantine, had placed an embargo in fact on all interstate commerce between the State of Louisiana and the State of Texas, and that the Governor of Texas had permitted these rules and regulations to stand and be enforced, although he had power to modify or change them. No complaint was made that the Texas quarantine laws were invalid. Nor was the bill rested merely on the ground of the imposition of an embargo without regard to motive. What it particularly charged was that the rules and regulations established by the authorities of Texas under its statutes were more stringent than called for by the particular exigency—went beyond what was necessary to protect the people of the state against the introduction of infectious diseases, yellow fever in particular, and were purposely framed with the view to benefit the State of Texas, and the City of Galveston in particular, at the expense of the State of Louisiana, and especially of the city of New Orleans. This bill the supreme court has dismissed, on the ground that it did not set up facts which showed that the State of Texas had so authorized or confirmed the alleged action of her health officer as to make it her own, or from which it necessarily followed that the two states were in controversy, within the meaning of the Constitution, so as to give the court jurisdiction. Moreover, it declares itself unable to hold that the bill could be maintained as presenting a case of controversy "between a state and citizens of another state." Nor can it, it says, accept the suggestion that the bill could be maintained as against the health officer alone on the theory that his conduct was in violation or in excess of a valid law of the state, as the remedy for that would clearly lie with the state authorities, and no refusal to fulfill their duty in that regard was set up. In truth, it adds, it is difficult to see how on this record there could be a controversy between the State of Louisiana and the individual defendants without involving a controversy between the states, and such a controversy, it maintains, as above stated, was not presented. In the course of its remarks, the court says that, while it is true that the power vested in Congress to regulate commerce among the states is a power complete in itself, acknowledging no limitations other than those prescribed in the Constitution, and that where the action of the states in the exercise of their reserved powers comes into collision with it, the latter must give way, yet it is also true that quarantine laws belong to that class of legislation which is valid until displaced by Congress, and that such legislation has been expressly recognized by the laws of the United States almost from the beginning of the government.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical News (N. Y.), April 7.

1.—*Cancer of Breast. Robert Abbe.
2.—*Malignancy. Arthur L. Fuller.
3.— Causes, Diagnosis and Treatment of Cystitis. Ramon Guitéras.
4.— Hypnotism. F. X. Dercum.
5.— Case of Spontaneous Rupture of Uterus. Bradford Woodbridge.

Boston Medical and Surgical Journal, April 5.

6.—*Distortion of the Spine; with Report of Two Cases of Diplegia Brachialis due to this Cause. J. W. Courtney.
7.—*Conservative Operative Treatment of Fibroids; Report of Three Cases. W. L. Burrage.
8.—*Two Cases Illustrating Conservative Operations for Uterine Fibroids. R. A. Kingman.
9.— Peculiar Case of Adenocarcinoma of Body of Uterus. Agnes C. Vietor.
10.— Case of Extrauterine Pregnancy, with Operation. Frederick W. Johnson.
11.— Empyema of Frontal Sinus. John D. Paige.

New York Medical Journal, April 7.

12.—*Puerperal Septicemia: Especially its Bacteriology and Treatment by Serum. Louis A. Hering.
13.—*Chronic Carbon Monoxid Poisoning, with Report of an Illustrative Case. Thomas J. Yarrow, Jr.
14.— Gunshot Wounds. Report of Gunshot Cases in Spanish-American War, and Deductions Therefrom. (*Continued.*) W. C. Borden.
15.—*Some Critical and Desultory Remarks on Recent Laryngologic and Rhinologic Literature. (*Continued.*) Jonathan Wright.
16.— Creosote. Some Clinical Observations on Its Use in Various Conditions. Frederick Cleveland Test.
17.—*Treatment of Gouty Deposits. E. L'H. McGinnis.
18.—*Critical Study of Justus Blood Test for Syphilis. David H. Jones.

Medical Record (N. Y.), April 7.

19.—*Traumatic Hemorrhages into Spinal Cord. Pearce Bailey.
20.—*Some Remarks on Treatment of Syphilis. Charles J. Proben.
21.—*Treatment of Rheumatism at New York Hospital. Hughes Dayton.
22.—*Summary of Cases of Carcinoma and Sarcoma Treated by Writer's Method of Cataphoric Sterilization, to Jan. 15, 1900. G. Betton Massey.

Cincinnati Lancet-Clinic, April 7.

23.—*Surgical Uses of Suprarenal Extract. J. W. Murphy.
24.—*Pelvic Tumors as Cause of Sciatica. Elliott B. Palmer.

Medical Review (St. Louis, Mo.), April 7.

25.—*Personal Cleanliness and a Good Complexion. Fred J. Leviseur.
26.— Report of Case of Hodgkin's Disease. A. Derivaux.

Philadelphia Medical Journal, April 7.

27.—*Histology and Microchemic Reactions of Some Cells to Anilin Dyes: Identity of the Plasma-cell and Osteoblast: Fibrous Tissue a Secretion of the Plasma-cells: Mast-cell Elaborates Mucin of Connective Tissues. H. F. Harris.
28.—*Parasites of Estivoautumnal (remittent) Malarial Fever. Charles F. Craig.
29.—*Soldier in the Tropics. His Food, Alcohol and Acclimatization. Charles E. Woodruff.
30.—*Hospitals of Porto Principe, Cuba. S. T. Armstrong.
31.— Bubonic Plague. H. F. Harris and W. F. Arnold.
32.—*Share of "The White Man's Burden" that has fallen to the Medical Departments of the Public Services in Puerto Rico. John Van Rensselaer Hoff.
33.—*Methods of Control of Leprosy in Hawaiian Islands, with Description of Leper Settlement on Molokai. R. S. Woodson.
34.—*Sanitary Conditions of the Far East as it Affects the United States. Stuart Eldridge.
35.—*Notes on Philippines. Samuel O. L. Potter.
36.— Cuban Malaria in North Atlantic Squadron of United States Navy in 1898. W. F. Arnold.
37.—*History and Etiology of Bubonic Plague. George M. Sternberg.
38.—*Intestinal Fever: Cause and Prevention. G. W. Richardson.
39.—*Amebic Dysentery. I. B. Diamond.

American Practitioner and News (Louisville, Ky.), February 1.

40.— International Congress for Tuberculosis. T. B. Greenley.
41.— Treat Patient, not Disease. R. R. Sullivan.
42.— Report of Case of Extrauterine Pregnancy which Became Intraperitoneal. J. Whitney Hall.

Columbus Medical Journal, March.

43.—*Early Diagnosis of Idiocy, with Case. J. Park West.
44.—*Inversion of Uncut Appendix. J. F. Baldwin.
45.— Appendicitis. J. A. McClure.
46.— Placenta Previa. Hugh Hendrixson.

Journal of Boston Society of Medical Sciences, February 20.

47.—*Relation between Physique and Mental Work. Henry G. Beyer.
48.—*On a Hitherto Unrecognized Form of Blood Circulation without Capillaries in Organs of Vertebrates. Charles S. Minot.
49.—*Relation of Cephalic Index to Height, Weight, Strength and Mental Ability. D. A. Sargent.
50.—*Branching Forms of Tubercle Bacillus in Sputum. W. H. Smith.
51.— Development of Microscope. Harold C. Ernst.

University Medical Magazine (Philadelphia), March.

52.—*Use of Antitoxin in Diphtheria, with Special Reference to Small and Frequently Repeated Doses. John H. Musser.
53.—*Absorption and Metabolism in Exclusive Rectal Alimentation. D. L. Edsall.

Annals of Ophthalmology (St. Louis, Mo.), January.

54.— Destructive Ulcers of Eyelids: Cure. Kenneth Scott.
55.—*Hemianopsia (Half-Blindness). Its Forms, Anatomy, Etiology, Diagnosis, Prognosis and Therapy. (*Continued.*) Herman Schmidt-Rimpler.
56.—*Clinical Notes on Sympathetic Ophthalmia. H. Gifford.
57.—*Value of Cycloplegia in Optometric Examination. C. M. Culver.
58.— Retrobulbar Abscess Due to Empyema of Maxillary Antrum and Ethmoidal Sinus Resulting from Dental Caries: Operation: Recovery. J. Guttmann.
59.— Some Wounds to Eye and Its Adjacent Parts in Cuban War of Independence. J. Santos Fernandez.
60.— Diabetic Cataract, with Report of Case. Edward B. Heckel.
61.— New Ophthalmoscope. Charles H. May.

Brooklyn Medical Journal, April.

62.— Practical Reform of One Hospital Evil. Arthur C. Jacobson.
63.—*Head Injuries. Silas C. Blaisdell.
64.— Treatment of Acute Anterior Urethritis. William E. Butler.

Annals of Gynecology and Pediatry (Boston), March.

65.—*Gall-Stones: Some Pathologic and Clinical Phases. A. H. Cordier.
66.—*Correlation of Sexual Function with Insanity and Crime. H. Macnaughton-Jones.
67.— Case of Porro's Operation. Milo B. Ward.
68.—*Some Remarks on Operative Treatment of Uterine Fibroids. W. J. Gow.

Chicago Medical Recorder, March.

69.—*Peculiar Mixed Tumors of Kidney. Maxmilian Herzog.
70.— Pathology of Renal Neoplasms. Daniel N. Eisendrath.
71.— Symptomatology, Diagnosis and Treatment of Neoplasms of Kidney. L. L. McArthur.
72.—*Effect of Diet in Nephritis. N. S. Davis, Jr.
73.— Motor Insufficiency of Stomach. Fenton B. Turck.
74.—*Demonstration of Three Cases of Radical Mastoid Operation. J. Holinger.
75.— Clinical Cases. D. N. Eisendrath.
76.—*Surgical Cases. A. E. Halstead.
77.—*Case of Nerve Suture a Year after Injury. E. J. Senn.
78.—*Inflating Rectal Specula with Detachable Tubes. J. Rawson Pennington.

Colorado Medical Journal (Denver), March.

79.—*Problems in Rural Sanitation. J. Tracy Melvin.
80.— Practical Methods of Detecting the More Common Pathogenic Bacteria. Wm. C. Mitchell.
81.—*Preliminary Remarks to Discussion of Tuberculosis. C. Denison.
82.— Etiology of Acute Diffuse Pneumonia. Wm. N. Beggs.
83.—*Angiotribe in Operations for Varicocele. Leonard Freeman.
84.— Operation for Carcinoma of Penis and of Anus. Edmund J. A. Rogers.

Cleveland Journal of Medicine, March.

85.—*Management of Incomplete Abortion. J. H. Belt.
86.—*Foreign Bodies in Maxillary Sinuses, with Report of Case. R. J. Wenner.
87.—*Adherent Pericardium, with Report of Case. H. W. Rogers.
88.— Puerperal Pyemia: Report of Case. I. W. Bard.
89.— Effect of Public School Life on Eyes of Children. Edward P. Morrow.
90.—*Amputation of Leg for Diabetic Gangrene, without General Anesthesia, by Cocainizing Spinal Cord. Wm. E. Lower.

Pennsylvania Medical Journal (Pittsburg), March.

91.—*Therapeutics of Opium. E. V. Swing.
92.— New Proctology. Wm. M. Beach.

St. Louis Courier of Medicine, March.

93.—*Ectopic Gestation. Egbert H. Grandin.
94.— Case of Secondary Post-Partum Hemorrhage. L. E. Newman.
95.— Rare and Interesting Surgical Cases. C. P. Thomas.
96.— Report of Case of Placenta Previa. Frank Hinchey.
97.— Relative Value of Antisepsis and Improvement in Technique, as Regards Actual Results in Operative Gynecology. (*Concluded.*) L. Gustave Richelot.
98.— Philosophy of Living. Isadore Dyer.

Canadian Journal of Medicine and Surgery (Toronto), April.

99.— On the Rôle of Primary and Secondary Osteoplastic Surgery in Treatment of Complicated or Compound Fractures of Extremities. (*Concluded.*) Thomas H. Manley.
100.— Complications of Suppuration of Middle Ear. J. H. MacCallum.
101.— Case of Jacksonian Epilepsy in Which the Paroxysms were Controlled by Chloretone. W. T. Parry.

American X-Ray Journal (St. Louis, Mo.), March.

102.— Excitation of Crooke's Tube by Static Machine. Magnetic Discharges. John T. Pitkin.
103.— Exhibition of Skiagraphs: Report of Cases. J. T. Dunn.

Alabama Medical and Surgical Age (Birmingham), March.

104.—*Wounds of Liver and Biliary Tract. W. E. B. Davis.
105.— Treatment of More Common Diseases of Rectum. Geo. S. Brown.
106.— Reflex Nervous Disorders. B. L. Wyman.
107.— Enuresis and Its Treatment. Thos. Bassett Keyes.

Medical Sentinel (Portland, Ore.), March.

108.— Conservatism in Pelvo-Abdominal Surgery. L. P. McCalla.
109.— Placenta Previa. Report of Case. Owens O'Dair.

Richmond (Va.) Journal of Practice, March.

110.— What Most Contributes to Success of Young Physician. I. S. Stone.
111.—*Four Cases of Penetrating Wounds of Abdomen with Visceral Lesions, and Wounds of Entrance above the Umbilicus. Hugh M. Taylor.
112.— Tubercular Arthritis of Knee, With Remarks. J. W. Henson.

Southern Medical Journal (LaGrange, N. C.), March.

113.—*Four Cases of Penetrating Wounds of Abdomen with Visceral Lesions, Wounds of Entrance Above the Umbilicus. Hugh M. Taylor.

114.— Delayed Menstruation in Girl, due to Chlorotic Conditions. J. W. P. Smithwick.

115.— Facts in Regard to Alcohol. W. P. Howle.

116.— Chronic Ulcers; Their Treatment, with Report of Cases. J. W. P. Smithwick.

AMERICAN.

1. **Cancer of Breast.**—The fact that cancer is more generally recognized as an originally localized disease is first alluded to, and as evidence, Abbe mentions the complete immunity furnished by the excision of the diseased regions where lymphatic circulation is not active enough, as in the lips and skin. In other localities, however, such as the breast, where the absorbent channels are free, the spread of infection is rapid, and he points out the causes as shown by the anatomy of lymphatics in the pectoral region. It is this progress along anatomic lines that has given the recent great impetus to surgery. To-day the axilla is regarded as primarily contaminated, almost as soon as any tumor can be recognized in the breast. Excision of the axillary lymphatics is, therefore, good surgery, and most operators now avoid leaving any possible contamination, make wide incisions, extensive extirpation of the skin without regard to apposition of the skin-edges, trusting to grafts and healing by granulation to fill the wound. Too much emphasis can not be laid on possible operative infection, and the author suggests that there is a certain risk in too much scrubbing in preparing the patient for the operation. He would advise the least possible friction and handling in preliminaries. In estimating the value of recent work we must rely on statistics and what he calls the personal impression of surgeons. He refers to the statistics of Halsted and Stiles, and he gives his own, in which about 25 per cent. have reached the three-year limit of freedom from the disease, and nearly as many more have approached it. As regards the "personal impression," he says that the stage of pessimism of ten or fifteen years ago is past and the operators are now hopeful in this class of cases. Even where perfect cure is not obtained much relief is secured for the time at least. Recurrence after operation need not discourage the physician; if speedily and thoroughly attended to there is still a strong probability of ultimate good results.

2. **Malignancy.**—Malignancy apparently consists in a group of features, such as rapidity of growth, tendency to recurrence after removal, glandular infection and general dissemination, and a condition of progressive ill-health ending in death. Fuller defines it as an inherent tendency to impairment of health and destruction of life by some special pathologic activity. The author of the paper here works out his suggestion largely by the resemblance to certain other conditions, myxedema and Addison's disease, each of which depends on the absence or destruction of certain glands, whose functions are intimately connected with the health of the organism. The cachexia of malignant disease is, he thinks, similarly produced, and he suggests the possibility of the connection of the absence of the thymus gland with this condition. This gland, as we know, is active in fetal life and infancy, and he thinks its function is to extract from the blood some products of embryonic cell metabolism which are injurious to the system. It is therefore suggested that it is possible to administer some preparation of thymus, preferably an extract by intravenous injection, which may be of use in treatment of these malignant tumors whose cells are embryonic in character. He sums up as follows: Malignancy is a term which implies some special form of pathologic activity, not present in other conditions. Since the cachexia alone seems to depend on forms of cell energy which are absent in other conditions, it alone must be considered the essential feature of malignancy. The relation of cachexia to the embryonic character of the tumor cells is such as to suggest that it is due to the retention of products of embryonic cell metabolism in the system, constituting a form of toxemia; therefore, the special form of activity which constitutes malignancy is probably the formation and excretion into the system of such products. This suggestion is borne out by the fact that the presence of embryonic cells pouring their metabolic products into the system, in the absence of the thymus gland, constitutes a pathologic condition similar to those present in myxedema and Addison's disease, diseases in which the loss of health closely resembles the cachexia of malignant disease. Therefore, the administration of thymus in malignant disease might prove of service in sustaining the patient's strength, just as the administration of thyroid has done in myxedema and suprarenals in some cases of Addison's disease.

6. **Distortion of Spine.**—The nervous symptoms accompanying distortion of the spine from trauma are noticed at length, by Courtney, and the treatment suggested. Incompleteness of cord lesion accompanying this distortion is the most distinguishing feature, and is shown by their usual one-sidedness, varying degrees of sensory and motor implication, their local distribution and chronologic order, etc. All these are discussed at length and two cases reported.

7. **Operative Treatment of Fibroids.**—After reporting three cases of removal of fibroids, 2 subperitoneal and 1 submucous, Burrage says that conservatism should be the rule and hysterectomy is preferable to myomectomy only in cases near the menopause. As regards the mode of approaching this tumor his rule is as follows: 1. If the tumor is of small size, of submucous evolution, and projects into the uterine cavity, dilate the uterine canal by sterile laminaria or tupelo tents, beginning twenty-four hours before the time set for operation. Splitting the cervix is often an unnecessary mutilation, and, in the case of sloughing fibroids, it offers a fresh cut surface for septic absorption. It time does not serve for gradual dilatation, dilate when the patient is under ether, with the stout steel dilators until the canal will take the operator's finger. Remove the tumor by twisting, snaring or by morcellation, according to its situation and character. 2. If the tumor is of subperitoneal or subvaginal evolution, and is in the cervical region, and the vagina is of good size, perform either anterior or posterior colpotomy and enucleate the tumor without opening the peritoneum, if possible, closing the incision with buried sutures of catgut. 3. If the tumor is of subperitoneal evolution in the region of the fundus, and in all other cases, open the abdomen, incise the capsule of the tumor along one side and enucleate it; then close the bleeding surface left with buried continuous sutures of catgut. At the present time he seldom has occasion to curette, and he does not think steaming of the uterine cavity has the sanction of successful experience. Electricity has no lasting effect on the tumor. Removal of tubes and ovaries has been abandoned as an operation as ineffective, and not much is to be expected from ligation of the uterine arteries.

8. **Conservative Operation for Fibroids.**—Kingman reports two cases illustrating the value of conservative methods where a more radical one would at first sight appear to be indicated. He believes that the percentage of cases of submucous sessile fibroids that can be removed by the vaginal route would be increased if digital explorations were more commonly employed, and he thinks that the tent has still some use in such cases. We ought to be able to remove pedunculated fibroids and fibrocystic tumors by the abdomen, whatever their size, and there can be no question that the presence of such a mass of tumors as to obliterate all evidence of a uterus, when the tumors are complicated by presence of suppurative disease, and where the patient has passed the menopause, also in certain other complications, such as Graves' disease, would make hysterectomy advisable.

12. **Puerperal Septicemia.**—The dangers and fatal tendency of puerperal septicemia compel one to employ whatever agent holds out any hope, and Hering reports that he has used two which are still *sub judice* to some extent. One of these is guaiacol, which he thinks is advisable only for lessening temperature. Given a case with a record of 100 to 105 F. and general depression attendant on septicemia, he has employed sponge baths, given at regular intervals, and guaiacol rubbed into the abdominal wall every hour until its antithermic effect became manifest. The other agent was antistreptococcus serum, and the good results attendant on its use have led him to believe in continuing its employment. This fails sometimes from mixed infection, as well as from other reasons. In many

cases the staphylococcus and bacillus coli are very active, as well as streptococci. The streptococcus itself is a very variable organism, and the serum effective in one form may not be so against others. The author attributes the failure to the use of old serum, delay in inaugurating treatment, insufficient use of the remedy and overstimulation of the patient. All his patients were curetted gently and thoroughly, the uterine cavity irrigated with weak bichlorid solution; the objections to curetting are invalid if it is properly done. He introduces a narrow strip of sterile iodoform gauze, and always evacuates pus where it can be reached by vaginal incision. In addition he has given a daily douche of a hot weak solution, and noticed reduction of temperature each time. The use of morphin is condemned. The administration of antistreptococcus serum is begun as soon as it can be procured, injected into a sterile area of tissue, with sterile hands and a sterile syringe. He doubts the value of giving quinin, as it impairs the oxygen-carrying function of the red blood-cells; when given it should be combined with ergot. He also protests against the trust in sterile gauze, as given out by manufacturers. He always adds more iodoform and throws the gauze in a bichlorid solution, keeping it there until needed. For stimulation he gives strychnin, beginning with 1/30 to 1/40 gr. and gradually tapering off, giving in conjunction caffein and sodium salicylate in 3 to 5 gr. doses every three or four hours, and continuing it after stopping the strychnin. For restlessness and insomnia he uses trional, 20 gr. and codein, 1/4 gr. at bed time. With these measures he carefully keeps up the nutrition of the patient, by a liquid diet.

13. **Chronic Carbon Monoxid Poisoning.**—Yarrow reports and illustrates a case, and calls attention to the value of the use of the spectroscope in diagnosis of obscure cases of poisoning. He thinks carbon monoxid poisoning may be much more common than generally supposed.

15. **Tuberculosis.**—In this article Wright notices some recent literature in regard to tuberculosis: Viquerat's paper attributing the cause to succinic acid; the demonstration of Cornet as to the importance of dried sputum infection, and the overthrow of Flugge's idea of transmission by coughing; the theory of contagion or infection by way of the tonsils, and the question of latent tuberculosis. He thinks that the statistics published can not be extensively relied on to establish the proportion of cases where adenoids and tonsils are the seat of the so-called latent tuberculosis. He does not believe that he will be able to bring his average, by microscopic examination, up to 5 per cent., which is Lewin's figure.

17. **Gouty Deposits.**—McGinnis' paper calls attention to the use of cataphoresis for introducing lithium locally into the gouty region, and its effects. Two patients thus treated have been much benefited, and a third one now under treatment is much improved.

18. **Justus Test for Syphilis.**—After a histologic introduction, Jones gives his personal experience with fifty-three cases in which this test was employed. He thinks that it is of value in the recognition of doubtful cases of syphilis, though not infallible. It often fails in two classes where diagnosis is especially desired, viz.: in latent cases and in early chancre, and sometimes in the beginning of the secondary stage. Its limitations have not yet been entirely worked out, but in certain cases where the question is as to syphilitic or tuberculous origin the Justus is of decided value.

19. **Traumatic Spinal Hemorrhages.**—The main subject of Bailey's paper is primary traumatic hematomyelia, but he notices primarily two other conditions, namely, pressure from displaced or broken-down protecting sutures and hematorrhachis. He thinks that the first of these is common enough, the second has been much overestimated by clinicians as to its frequency, while the third is relatively frequent, but its importance results from its favorable prognosis. Hemorrhage into the substance of the cord occurs without demonstrable lesions of the bones in a number of cases, and more would probably be known if we had autopsies. The situation is generally in the gray matter, but the white is not uninvolved if it is at all extensive. The focal hemorrhages are usually surrounded by some minute extravasations. When the hemorrhage is small, there need not be any visible inflammatory nor degenerative reaction. In contrast to the localized form limited to one special region, we have the disseminated type where the hemorrhage occurs throughout the whole spinal axis. This has been speculated on as causing traumatic neuroses. His earlier case, which is here reproduced, is the only one of which he has any pathologic records in the adult. Another case is also reported of his observation. The symptoms of both large and small focal hemorrhages are studied, and several cases which he interprets as due to these conditions are detailed. The place of election is in the cervical region in primary focal disorders. He believes that the condition known as traumatic diplegia brachialis is due to this rather than to extradural hemorrhage. Small focal hemorrhages do not directly menace life. The treatment of both kinds is the same: rest in bed; attention to bowels and bladder; the pain may be relieved by analgesics; iodid of potassium may hasten absorption. Electricity to the muscles is recommended, and after the immediate effects have passed away passive motion and massage.

20. **Treatment of Syphilis.**—Some of the points noticed by Proben are the destructive ravages of the disease on the nervous system, the multiform eruptions being less important than the visceral complications, the necessity of having the patient in as good physical condition as possible during the treatment, and the importance of mercury as the leading therapeutic agent. He notices the frequent occurrence of cases where there is no history, but amelioration of symptoms by specific treatment. Iodid toleration is usually well marked, but the medicine should be watched and should be given well diluted in water after meals. Mercury, however, is the sheet-anchor in the treatment of the disease.

21.—See abstract in THE JOURNAL of April 14, p. 934.

22. **Carcinoma.**—The method of Dr. Massey consists in cataphoric diffusion of the nascent mercuric salts, produced by electrolysis of metallic mercury inserted by the gold anode into the growth, the patient usually being under general anesthesia, and the chemical and cataphoric force being a direct current of 200 to 1200 milliamperes continuously employed for a time varying from fifteen minutes to 2½ hours. The immediate effect is the production of an area of necrosis involving the growth, beyond which extends a zone of sterilization in which the malignant germs are killed without destruction to the normal tissue elements. He claims that he has employed this in 37 cases, with good results in 13.

23. **Suprarenal Extract.**—The value of suprarenal extract in surgical operations on the eye, ear, nose and throat has been demonstrated by Murphy in over one hundred cases. In nasal operations, he thinks the action has been especially gratifying. He uses it as a routine practice in all operations within this region, as his experience has shown its value. He has also found it useful in hay-fever.

24. **Pelvic Tumors and Sciatica.**—Palmer reviews the anatomical conditions of sciatica, and calls particular attention to the fact that it may be due to pelvic tumor, with other symptoms referable to the pelvis, and the patient be utterly unaware of the real disorder. He thinks this may be unusual, but the case he reports is of this character.

25. **Good Complexion.**—Leviseur calls attention to the necessity of personal cleanliness, especially of the hands, in preserving a good complexion, as infection from these is most common. Avoidance of irritation, use of a soft towel, care of the teeth, digestion, etc., the disuse of irritating washes, cosmetics, soaps, hot water, etc., are also mentioned.

27. **Cell Reaction to Anilin Dyes.**—Harris, after stating the general principles of staining with anilin, and the different reactions of nuclei and protoplasm, gives the method which he has found most useful. The remainder of his article is taken up with a description of the different forms of cells, their origin, morphologic and tinctorial characters, their occurrence and function.

28. **Parasites of Estivo-autumnal Malarial Fever.**—Craig gives the results of his study in Cuba and the Philippines. He believes there are two definite types of estivo-autumnal fevers—the quotidian and tertian—and he describes their

parasites in the different stages of their development. The quotidian form is less known, though it is mostly found in pernicious forms of the disease. He concludes that logical facts force him to agree with Marchiafava and Bignami as to the existence of these two varieties, one having a life cycle of development of twenty-four hours, and giving rise in uncomplicated cases to a fever with quotidian paroxysms; the other having a life cycle of forty-eight hours and tertian paroxysms in which the temperature-curve is peculiar and characteristic. One of the most striking differences between the two parasites is their size, the quotidian being minute and usually contained within the blood-corpuscle in its segmenting stage, while the other is more than twice as large and is outside of the corpuscle during this stage.

29. **The Soldier in the Tropics.**—Woodruff's article covers a large compass of factors in regard to tropical army life. The food ration is discussed. He finds a necessity of meat diet as evident as in a more temperate climate; there is one change which he has advocated, and that is adding something to the soldier's allowance, to enable him to modify his diet as he may require. He seems to think that alcoholic stimulants are to a certain extent a necessity in the tropics, while he is not quite ready to recommend the daily ration of wine and whisky, he thinks it seems reasonable. In any case a liberal diet for the soldier in the warm climates is the legitimate conclusion to be drawn from the facts observed. Overeating is less responsible for sickness than has been supposed; most tropical diseases are germ disorders. The usefulness of the abdominal bandage is also another fiction and he does not believe that the white race can be acclimatized in the tropics, while one of the ways in which we will have to carry the "White Man's Burden" successfully is to furnish liberal diet and all necessary comforts to our soldiers in those parts.

30. **Cuban Hospitals.**—Armstrong describes the hospitals of Puerto Principe, Cuba, which are far from being model institutions, according to his account.

32. **Porto Rico.**—The conditions in Porto Rico, from a medical point of view, are described by Hoff, who has been chief of the board of health and board of charities since their organization. What the board of health has done is summed up by him as follows: It has prescribed a state examination, and licensed all physicians, dentists, pharmacists, practicantes, midwives, and nurses now practicing here. By this plan it has obtained control of the medical personnel of the island, through whose effort its sanitary salvation must come. It has appointed sanitary inspectors in every district, from whom regular reports of sanitary conditions are received. It has founded a laboratory for the examination of food-adulterations, etc. It has organized a vaccin station for the production of vaccin virus to complete the work of general vaccination of the people, inaugurated by the medical department of the army, and to continue the current work. It is collecting and collating the vital and morbid statistics. It has published several bulletins on prevalent diseases, and finally it is meeting the numberless cases that are presented from all sources for it consideration and recommendation. In addition the boards have had the whole population vaccinated, as previously noted in THE JOURNAL, and have still to do with famine, having not less than over 200,000 people needing attention.

33. **Leprosy in the Sandwich Islands.**—Woodson describes the leper colony on Molokai, and commends the methods of the Hawaiian authorities in regard to leprosy.

34. **The Orient and Sanitation.**—The countries of Eastern Asia and the outlying islands are the home and focus of some of the most dangerous and infectious epidemic diseases, including plague, dysentery, etc., all of which are noticed by Eldridge. He thinks that with the increase of travel, greater precautions will be required than have heretofore been the case, first the seacoast quarantine, which needs a uniform and single control. There should be more frequent examinations of ships from foreign ports, before bills of health are guaranteed by American consular officials. It is necessary for the steamship lines to have apparatus and means for disinfection and this deficiency of equipment is one of the more serious matters at the present time. The steamship companies however, are becoming more willing to make such installations, recognizing that it is for their interest to do so.

35. **Notes on the Philippines.**—Potter describes the people, sanitary conditions, etc., in the Philippines. As regards the former, he especially mentions the Tagalos, with whom we are having our present trouble. They are very negligent of sanitary matters, though cleanly in their persons, and stringent methods are required to render their habitations healthful. The water-supply of Manila is excellent, but the death-rate, even allowing the highest estimated population, is a very large one. The bubonic plague has had a high mortality-rate among those affected since its introduction. Venereal disease in the army is of but comparatively moderate importance, being hardly over 1 per cent., and that not of the serious form. Malaria is widespread, as might be supposed. Diarrhea and dysentery are obstinate, rheumatism common and not very amenable to treatment, and otitis media is one of the most frequent affections and very difficult to handle. Heat exhaustion is common and recovery slow. The general climate is not bad for those able to avoid exposure, but serious for those who are broken down.

37. **Bubonic Plague.**—Sternberg's paper is largely historical, but he gives the general facts as to the spread of the disease and the conditions which favor it.

38. **Intestinal Fever.**—The disorder described by Richardson is characterized by the following symptoms: anorexia, weakness of the limbs, headache and backache, cramps in the stomach, lienteric diarrhea and fever. It affected some 75 per cent. of the troops under his observation. The great difficulty in diagnosis is between it and typhoid fever, and its exciting causes are excessive heat, indigestible and improperly cooked foods, unsuitable clothing and drinking of native liquors. He believes in the utility of the abdominal bandage, which has been largely disused by the soldiers even when furnished, and his opinion in regard to liquor in the tropics is not that of Woodruff, mentioned above. (¶ 29.)

39. **Amebic Dysentery.**—Diamond describes several cases of this condition discovered in Chicago, but contracted in the South. He thinks that this illustrates the frequency with which his affection is overlooked in that region. Early diagnosis is of great importance and microscopic examination of stools is usually necessary. These should be stained in the fresh state as recommended by Harris, viz., by a .5 per cent. aqueous solution of toluidin-blue by passing the staining solution under a cover-glass through a pipet. By this the amebæ stand out prominently. The stools should be collected in a clean vessel and not mixed with urine, which kills the organism. In his opinion the best treatment is rectal injection of a solution of hydrogen dioxid and potassium permanganate. Of the former, a 25 per cent. solution may be used and of the latter 15 grains to a quart of warm water, two or three times a day, and gradually reduced according to results. Guarded prognosis must be given, however, as relapses are frequent, and the patient should not be considered out of danger for at least two months after apparent recovery, and during that period should remain on a liquid diet.

43. **Idiocy.**—West describes a case of Mongolian idiocy, the characteristics of which he gives. Its recognition is not a difficult matter. He mentions a case of a child under observation, with these characteristics, but apparently very bright, and will watch it rather expecting to see it become imbecile. Cretinism and hydrocephalous idiocy are also noticed, with other types of defective development.

44.—This paper has appeared elsewhere. See abstract in THE JOURNAL of February 3, ¶ 20, p. 285.

47. **Relation Between Physique and Mental Work.**—To test the observation of Porter, that precocious children weigh more and dull children less than the average at their age, which has been questioned by some, Beyer has made examinations of a large number of boys enlisting as navy yard apprentices, and confirms Porter's results. He suggests the adoption of this method of examination in public schools.

48. **"Sinusoids."**—This name is given by Minot to a special form of blood-vessels usually much wider than the capillaries,

having an endothelial wall only and no media nor adventitia. They differ from the capillaries in their origin from the modification of a pre-existing relatively large vessel which expands so that its endothelium intercresces with the growing parenchyma of the organ, and this parenchyma develops in the form of tubules—nephric or hepatic—or trabeculæ—cardiac. They are also differentiated from the capillaries by the fact that the latter are always more or less completely surrounded by connective tissue—mesenchyma. Sinusoids can be demonstrated in the pronephros, mesonephros, liver, heart, parathyroid, suprarenal capsules, and coccygeal gland. The vessels of the corpora cavernosa and allied structures are probably not sinusoids, but expanded capillaries.

49.—This paper was editorially considered in The Journal of March 31, p. 820.

50. **Branching Forms of Tubercle Bacillus.**—Smith shows, by microscopic examination in patients with tuberculosis that there may be unusual forms of tubercle bacilli present in sputum, either filamentous, branching, budding, or beaded in their appearance.

52. **Diphtheria Antitoxin.**—The question as to the advantages of antitoxin are discussed by Musser, who calls attention to his methods; he uses much smaller doses than are generally recommended. He commenced to give the serum before there were any data in regard to its use, and was naturally cautious, but the results have been so satisfactory that he has not changed. In children from 6 to 8 years old, his beginning dose is 500 units, repeated at intervals of six hours if improvement does not take place. To children of over 8 years, 1000 units are given as an initial dose, and at intervals of eight to twelve hours as needed. He reports thirteen cases, several of them with temperature-curves.

53. **Rectal Alimentation.**—Edsall points out the insufficiency of rectal alimentation in keeping up the nutrition of the body, and illustrates it with a carefully observed case. He does not wish to say that it is of little value, for it is sometimes our only resource, but it is only an unsatisfactory makeshift at best by which we can temporarily reduce tissue loss and tide a patient over a period during which the stomach is becoming equal to reception of food, or who is being prepared for operation for removal of mechanical difficulties interfering in taking food by the mouth.

55. **Hemianopsia.**—Schmidt-Rimpler's paper includes a complete discussion of the facts and literature on hemianopsia, but is not finished in this number.

56. **Sympathetic Ophthalmia.**—Three cases are reported by Gifford in which the absence of premonitory symptoms was notable. He also insists on the importance of daily tests of vision, and calls attention to the value of large doses of salicylate of sodium after the disease has appeared. He strongly favors the microbic theory of the disease.

57. **Cycloplegia.**—This article is the result of examinations on a thousand eyes in private practice. He concludes that a 2.5 per cent. solution of homatropin hydrobromate, instilled six times, at intervals of five minutes in the healthy eye, provides trustworthy cycloplegia in from one to three hours, and is as effective as a protracted use of 1 per cent. solution of atropin. It is desirable to produce an artificial cycloplegia in 10 per cent. of cases coming to an ophthalmic surgeon, hence the value of this agent.

63. **Head Injuries.**—Blaisdell reports and illustrates a number of cases of head injury, and insists on the value of the rongeur in preference to the mallet and chisel, which he thinks are dangerous in inexperienced hands. He gives a description of his own modification of the DeVilbiss rongeur, which he thinks is a nearly perfect instrument.

65. **Gall-Stones.**—Cordier's experience has not been in accord with that of others, as the majority of his cases have been in males. He deduces the following conclusions: 1. Cholelithiasis is of frequent occurrence and usually gives rise to manifest symptoms, either severe or obscure. 2. Cholesterin, as a gall-stone-producing agent, must be present in an abnormal quantity. 3. This is in a great measure a product resulting from the destruction and disintegration of the epithelium of biliary ducts and gall-bladder. 4. Bilirubin calcium, an insoluble compound, the outgrowth of the union of bilirubin and the lime salts, forms the nucleus of most of the stones formed in the ducts and the majority of those formed in gall-bladders. 5. Jaundice, ptomain poisoning and suppuration are late symptoms of cholelithiasis. 6. Dyspeptic symptoms, swarthy skin, uneasiness in the region of the gall-bladder—congestion of the liver—and loss of weight are some of the remote and local outgrowths of the presence of gall-stones. 7. Inflammatory diseases of the duodenum and bile-passages are the most direct causative factors in the production of gall-stones. 8. Some patients get well without any assistance from the physician or surgeon, yet the progress of those that terminate favorably without surgery can be greatly assisted by the physician. 9. The surgery is especially difficult and the inexperienced should not undertake it. 10. A ball-valve stone usually continues giving rise to symptoms until removed by surgery. 11. Stones in the gall-bladder, producing septic symptoms, should be removed.

66. **Sexual Function in Insanity and Crime.**—Macnaughton-Jones reviews the questions of the reflexes of the genital organs and the brain. The importance of the internal secretion of the ovaries on the normal metabolism of the patient would seem to him to also have a bearing as to the part of these organs in producing mental and nervous disease. He quotes extensively from various authorities, Claye Shaw, Clouston, and others, and from the entire evidence comes to the following conclusions: 1. The correlation of insanity and disordered sexual functions arising out of affections of the generative organs is a factor to be taken into serious consideration in the treatment of women mentally afflicted. 2. Where there is a ground for the suspicion that some abnormal condition of the uterus or adnexa exists, which may produce or aggravate the mental affection, a careful examination, under an anesthetic, if necessary, should be made. 3. In the investigation of criminal acts committed by women, either during the menopause or while the menstrual function is either active or suppressed, due weight should be given to the influence exerted by its irregularity or abeyance on the mind of the woman. In doing this, her previous history and temperament must be considered. 4. The special dangers of the climacteric period, and the symptoms indicative of threatening mania must be collected. The principal of these are moroseness and depression of spirits, attacks of hysteria, occasional hallucinations of sight and hearing, and especially of smell, suspicions with regard to relations, unjust dislikes, unfounded apprehensions of some great crime committed or injury inflicted on them, suicidal tendencies. Here, again, examination of the pelvic viscera is indicated. 5. In operation on the female generative organs there is a greater predisposition to mental disturbance than after other operative procedures—further, post-operative insanity is usually of a temporary nature. 6. Women who have been previously insane are predisposed to a relapse, by the development of disease in their sexual organs, and especially to temporary recurrence of insanity after operation on these. Under all such conditions and in the face of these warnings, the greatest supervision and care are required to anticipate the insane impulse, and to prevent suicide or crime in the case of women who manifest symptoms that may have their origin in disorders of the sexual organs.

68. **Uterine Fibroids.**—Gow discusses the indications for operation for these fibroids, and sums up that the lessened mortality of abdominal hysterectomy enables one to save the patient not merely from death but from invalidism. A patient who is seriously inconvenienced by fibroid, rebellious to treatment, and not suitable for enucleation through the vagina, may fairly be advised to submit to abdominal hysterectomy with subperitoneal treatment of the stump, provided the would-be operator has reduced his mortality to below 5 per cent. In his own operation, which he finds applicable to all patients, the first step is to ligate each round ligament on a level with the internal os. Then the anterior flap of the peritoneum is marked out with a knife, and the round ligament divided on the anterior side of the ligature. The anterior layer of the broad ligament may now be divided, carrying the

incision upward, toward the middle of the Fallopian tubes. The incision across the front of the tumor has thus been made high enough to permit a large anterior flap, which is stripped down with the fingers or knife-handle. The ovarian arteries and veins are next tied on each side, including the Fallopian tube. The ligature should be tied so that at least one ovary is left, but if the fibroid occupies one broad ligament, it may be more convenient to tie it on that side outside the corresponding ovary. The vessels having been tied, the broad ligament is divided on the uterine side of the ligature, the oozing being stopped with clamped forceps. This is done on both sides and the posterior flap is marked out with the knife and dissected downward for a short distance. The uterine arteries can now generally be felt without difficulty, and seized with pressure forceps at this level of the os interum. The tumor is now cut away with a knife, at the appropriate level, and the stump caught up and drawn to the surface with vulsellum forceps. The uterine arteries are then carefully tied, and he introduces what he calls a precautionary ligature—a curved, handled needle, armed with silk is thrust through the stump from before backward, avoiding the peritoneum, so as to allow the ligature to include the outer growth of the stump; this is tied on the outer side and includes the uterine artery which, however, has already been tied separately. A similar ligature is now tied on the other side, the object being to control oozing. After the latter has been stopped, he generally puts in two fore-and-aft sutures through the muscular substance of the stump, again avoiding the peritoneum, and in this way the raw surface is rolled together. He has never seen his ligatures discharged through the abdomen or vagina. After this the peritoneum is cleansed and the abdomen closed. He favors simplicity of operation, seldom uses more than six pairs of pressure forceps, and never more than six sponges. He never has but one assistant, and never allows anybody but himself to touch his instruments or ligatures. The most serious complication at the time of operation is the presence of old adhesions, such as may result from former perimetritis. Four cases are reported.

69. **Mixed Tumors of Kidney.**—Malignant tumors of the kidney of early life are discussed by Herzog, who notices the views of Birch-Hirschfeld and Wilms and gives his own as to their origin, after describing the development of the parts, as follows: The nephrotome—*mittelplatte*—is not cut off at the normal site, but in such a manner that a part of the myotome is severed from the main mass and remains in connection with the nephrotome. The separation may take place so that only a part of the myotome proper is cut off, or a part of the sclerotome may likewise be taken along. If the former is the case, we have the matrix for striated muscle-fibers only; if the latter occurs we have also the matrix for cartilage. If, now, we assume that a part of the nephrotome—Wolffian body—to which tissues of the myotome have become adherent by an abnormal process of abnormal separation becomes included in the permanent kidney, we have a matrix containing those elements which occur in the mixed renal tumors, namely, striated muscle-fibers, cartilage, other connective-tissue elements, and epithelial glandular structures. The latter are derived from the excretory tubules of the nephrotome. This explanation will account for the character of these peculiar renal neoplasms, without compelling us to take refuge, as Wilms does, in metaplastic processes unheard of in tumor formation.

72. **Diet in Nephritis.**—According to David, when cases of acute nephrectomy first come under treatment, it is best to enjoin rest in bed, withhold all food for twenty-four to thirty-six hours, give water freely and cleanse the alimentary canal by purgation. Milk should then be given, first in small quantities at intervals of two hours, the amount gradually increased until two quarts are taken daily. It is best given in small amount, one or two ounces at a time, especially if there is any distress on taking it. Where the patient can not take it, either plain or flavored, water-gruel may be given, but there is really no substitute. When the urine becomes copious, farinaceous foods may also be prescribed, and when albumin disappears, egg can be tried. Close watch must be kept on the addition of albuminous foods in tne diet. Red meats should not be eaten until recovery is complete. When the stomach is intolerant at the beginning, water should be given hypodermically by the rectum, to insure renal elimination, but as a rule, when the bowels are well emptied, the kidneys begin to act and vomiting ceases. In chronic diffuse nephritis the indication for milk diet is similar, but the disease is so prolonged that it can not be maintained continuously and may be given intermittently, or sometimes modified by the addition of bread, starches, fruits, etc. Vegetables can generally be given, but rhubarb, sorrel and tomatoes should be excluded, perhaps also cabbage, asparagus, spinach and artichokes, on account of the oxalates they contain. Eggs are the least harmful of albuminous foods. The effect of fish is questionable, but if fresh it is probably as little harmful as any. Salt and smoked meats, excepting ham, should be avoided, and fried articles generally. In chronic interstitial nephritis an abstemious diet is advisable; even simple animal food should be used in small quantities, excepting milk. Tea, coffee and chocolate can be used in moderation. Water is the beverage; alcohol is forbidden.

74.—See abstract in THE JOURNAL of February 17, p. 425.

76.—Ibid., p. 422. 77.—Ibid., p. 425. 78.—Ibid.

79.—See abstract in THE JOURNAL of July 29, p. 288.

81. **Tuberculosis.**—Denison calls attention to certain points in the diagnosis and management of tuberculosis, especially the fact that the matured bacillus does not appear until late in the disease. There is necessity, therefore, of rendering every possible means of early diagnosis apart from the germ evidence. He gives a new definition of consumption: "It is a degeneration or slow death, due to the vitiation of the blood, generally produced by defective ventilation of the lungs, a prominent and advanced symptom of which is the bacillary germ of tuberculosis."

83. **Varicocele.**—Freeman recommends the use of the angiotribe in operation for varicocele, as it renders its removal simple and expeditious. He has operated this way a number of times with uniformly satisfactory results.

85. **Abortion.**—The need of thorough removal of placental debris after abortion is emphasized by Belt, who prefers the finger to the curette for this purpose, as less dangerous.

86.—See abstract in THE JOURNAL of February 17, p. 431.

87. **Adherent Pericardium.**—Rogers reviews the diagnostic characteristics of this condition, the most important of which are the range of cardiac motion, diastolic shock, pulsus paradoxus, right enlargement, and systolic retraction of lateral and posterior chest walls (Broadbent). Very few cases of cardiac disease in the young will not improve under proper treatment, unless pericardial adhesions exist. The prognosis is uncertain, but usually unfavorable when signs are clear.

90.—See abstract in THE JOURNAL of March 24, p. 749.

91. **Opium.**—The therapeutics of opium are summed up by Swing as follows: Morphin is necessary to relieve severe pain, and is still the safest agent for that purpose; it is indispensable in the majority of diarrheal conditions. It, or some one of its derivatives, is necessary to combat and relieve coughs, no matter what their pathologic cause, and in so doing their relief becomes a potent curative factor.

93. **Ectopic Gestation.**—The discussion of this condition is reviewed by Grandin, who notices the indefiniteness of the symptoms in certain cases and reports several showing this fact. He also gives an account of a patient in whom all the symptoms were present, and yet the condition found was pyosalpinx. He insists on promptness of operation in this condition. A clean cut is safer than expectancy. This has been his rule for years and he has not regretted it.

104.—See abstract in THE JOURNAL of Oct. 14, 1899, p. 982.

111.—This is the same paper as that under title 113.

113.—This is the same paper as that under title 111.

FOREIGN.

British Medical Journal, March 31.

Will-making in Aphasic Paralysis. JAMES EDMUNDS.—The case reported is that of a woman, 60 years of age, of unusual intelligence and ability, who became aphasic with

right hemiplegia. It was noticed that she could name the cards of a pack correctly and this suggested to her physician that by a somewhat similar means he would be able to get at her wishes in regard to the disposal of her property. He therefore provided a system of cards, each denoting one single item, either property, office or person. By taking one showing the item of property to be disposed of, the patient holding in her other hand cards with names of individuals who were likely to be her legatees, she picked them out and in this way was able to make her own will. The method received the commendation of the probate court. The idea is a good one, and it is suggested for future cases of the same kind. In this case there was no alexia, and in any case there must be the completest available lists of property or persons obtained. While it thus has its limitations as regards the knowledge of properties and legatees, it would seem, however, to be a safe and useful method for such cases.

The Lancet, March 31.

The Typhoid Bacillus and Typhoid Fever. P. HORTON-SMITH.—This author discusses the subject of relapses, which he thinks are due to imperfect immunity in prior infection and reinfection by germ. Typhoid fever without interstitial lesions is noticed, and the evidence that the typhoid bacillus may occasionally pass into the blood and become generalized in the organs, just as occurs in ordinary typhoid fever, without causing any interstitial disease even though the bacilli enter through the intestinal tract is reviewed. A very similar form of disease is not uncommon in the fetus; primary fetal septicemic typhoid is frequently the cause of the abortion that so often occurs in this disorder. That typhoid infection may also occur locally is shown by cases of cholecystitis reported by Cushing and others. A table is given of the various complications of typhoid fevers as they have occurred in examinations at St. Bartholomew's Hospital during thirty years. They appear to be most frequent in the lungs, heart and intestines, though not absent from the liver, kidneys, etc. Those of the nervous system appear to be rare, but he quotes from Keen as having collected fifteen cases, by bacteriologic examination, with the typhoid bacillus in the meninges, and while some of these may be open to criticism, he especially mentions the report of Ohlmacher in THE JOURNAL as being conclusive. The respiratory system is represented largely in ulceration of the larynx and lobular pneumonia, both of which seem to be thoroughly demonstrated. Vascular and cardiac disease are well known, and nephritis occasionally occurs; this may be attributed to the intoxication. The subject of typhoid bacteriuria is treated at considerable length, and the author concludes that there can be little doubt that the typhoid bacilluria is due to infection of the urine by stray typhoidal bacilli excreted by the kidneys from the blood, and their immediate multiplication in the urine. If, in addition, the bladder walls have been in any way damaged, true typhoidal cystitis follows. The bacillus is found in the urine in probably 25 per cent. of the cases, hence the importance of this symptom. Other subjects mentioned are cholecystitis and bone suppuration. The presence of bacilli in other suppurations is very rare. The long-continued presence of typhoid bacilli in the body is amply demonstrated, both experimentally and clinically. A most remarkable case is that reported by Von Dungern, in which the typhoid bacilli were present 14½ years after the typhoidal attack. The patient, therefore, may be a social danger for months and years.

Treatment of Rheumatism, Its Prophylaxis and Cardiac Complications. RICHARD DOUGLAS POWELL.—The writer alludes to certain organisms discovered, and cautiously favors the germ idea for rheumatism. He says we can have no quarrel with any hypothesis which leads to so practical a therapeutic suggestion as that of the salicyl compounds in the treatment of rheumatic fever. He refers also, among other things, to the possible nervous elements in its origin. He can not, moreover, regard rheumatism exclusively from the cardiac side, and thinks the definition of the disease is "a systemic disease with arthritic and cardiac manifestations," which is within the limits of our knowledge of the actual causes at work in acute rheumatism. In the treatment, he suggests a liquid diet, absolute rest in bed with woolen wrappings, free relief of bowels and the administration of salicylate of soda in efficient doses, combined with such alkaline remedies as the condition of the urine suggests. It is important not to allow the patient to get up too soon, the after-effects being often due to disregard of this. We are not required to give opium to any great extent, though it is useful for relief of pain, but in grave forms of endocarditis and especially pericarditis, it is of marked value, as it causes organic rest. As to blisters, he does not believe much in them theoretically, but practically they seem to be of some value.

Revue de Chirurgie (Paris), March 10.

Tumors of Biliary Passages. F. TERRIER AND AUVRAY.—Sixty observations are tabulated, with details, some personal and the rest collected from the literature. They show that the ultimate results of radical operations for neoplasms of the gall-bladder are deplorable: an immediate mortality in 35 per cent., and recurrence within a few months in the rest. Hochenegg's patient alone survived two years in good health, and died a year later from recurrence. The average of survival was six to eight months. Palliative operations for cancer of the gall-bladder are even less encouraging. Death from cachexia was frequent within a few days after operation. The immediate mortality was 26.66 per cent., and only one patient out of fifteen survived a year. The icterus persisted and even increased in a few cases. Eight operations for neoplasms of the excretory biliary passages were all palliative. Two cholecystostomies for cancer of the common bile-duct were followed by death from the debility of the patients at the time of intervention. In one the feces had resumed their normal color, showing that the operation had been successful. The cholecystenterostomies for cancer of the common bile duct resulted in one survival and two deaths soon after operation. The icterus disappeared in one of the latter, and in the patient who had survived six months at the time of the report the operation had cured the icterus and pains. The single case of choledochoenterostomy succumbed in fourteen days to progress of the lesion; the icterus had persisted. Two cholecystenterostomies for cancer of the ampulla of Vater resulted in one death and one survival for fourteen months, in good health until the last two. (Terrier.) In the fatal case cholecystostomy had been done six days previously, and a pancreatic fistula was also implanted in the intestine at the same time the cholecystenterostomy was done, with collapse from these prolonged maneuvers. Terrier concludes, from his study of these experiences, that while the results of these palliative operations have been far from brilliant, yet this is the route to follow. These new operations are the only ones which remedy the accidents caused by the retention of bile, and they may enable the patients to survive a long time, under the condition that they are done before the stage of advanced cachexia has been reached.

Burns Caused by Industrial Electricity. MALLY.—Among the peculiarities of these burns is the absolute painlessness, the dry, parchment-like aspect of the burned surface, and the aseptic, rapid healing, unless the deeper tissues are involved, when the loss of tissue is irreparable. The treatment is very simple, merely immobilization of the member and protection of the wound with sterilized gauze. If grafts of epidermis are necessary, they heal exceptionally well, on account of the aseptic conditions. If complicated by burns, from the clothing, etc., catching fire, the usual treatment of the latter is required. When the electric burn affects the bone, it is apt to compromise the vitality of the peripheral segment and gangrene may result, requiring amputation. The burn is always accompanied by a more or less intense nervous shock. The patient may never recover from the syncope and there does not seem to be any connection between the gravity of this and the voltage of the current. As he recovers, psychic troubles are noted, more intense in those predisposed by disease or alcoholism. Another complication constantly noted by the writer was an atrophy of the muscles of the arm in case of burns of the hand. Sensibility and electric reaction seem normal but the atrophy may persist a long time even in persons free from all hysterical stigmata. The prophylaxis of burns from electricity consists

in perfected apparatus and education of the employees, and, for the public, removal of overhead wires.

Treatment of Renal Retention. A. GOSSET.—The intermittency is the constant, pathognomonic characteristic of renal retention, Gosset observes, and unless promptly operated on, the retention increases progressively to a fatal termination, the renal tissue deteriorates more and more, the retention becomes infected and the other kidney involved. He advises nephrostomy in every case of renal retention, septic or not, at once and without regard to the condition of the other kidney. This lumbar fistulization of the kidney and evacuation of the septic products rests the ureter and the ureteritis heals. The tension of the organ relieved, the products can be analyzed several days later and not until then can the actual value of the organ be determined, and whether it is worth while to save or remove it. The ureter must be implanted in the lowest portion of the pocket, either by dividing the ureter and suturing the end, or by a lateral anastomosis between them. The ureter must be also implanted at the thinnest portion of the pocket, and if this is not at the same time the lowest point, the pocket must be shortened to bring the base on a level with the mouth of the ureter. Nine patients have been operated on by Albarran, with one death: one with a permanent sound in the ureter and recovery; one with section of a spur and recovery; five others with preliminary nephrostomy and lateral anastomosis of the ureter with a pocket a few weeks or months later. One has been cured for two years, one for eighteen months, and one for a year.

Branchial Epithelioma of Neck. V. VEAU.—Six personal observations, added to the forty-eight on record, show that "malignant branchioma" is not so rare as generally assumed. The treatment should be preventive in case of branchial fistulæ, cysts and mixed tumors, by removal before malignant transformation. If ablation of the branchioma is possible it should be extensive. The vein will have to be ligated, but this is free from danger. The artery should be respected; its ablation may entail cerebral accidents, and ligating it to prevent or arrest hemorrhage caused the death of one of Veau's patients. The vagus may have to be resected; this is less dangerous than ligating the primary carotid. It is best not to attempt autoplastics. The branchioma may develop from the various elements of the branchial arches and be located in the parotid and submaxillary glands or in the thyroid gland, possibly also in the mediastinum, but it is most frequent and most typical in the neck.

Bulletin de l'Academie de Medecine (Paris), March 13 and 20.

Influence of Meat Extracts on Growth and Health of Animals. A. GAUTIER.—The research reported extended over many months, and large numbers of guinea-pigs were the subjects. The results showed that soup, good bouillon, is an actual food, a stomachic stimulating gastro-intestinal secretions, and a general tonic, by its proportion of albuminoid matters, its appetizing odors which stimulate the secretions, its creatin and xanthin bases which in small quantities act as a tonic on the heart and muscles (like caffein, which also belongs to the xanthin family), by its organic phosphorized derivatives from the lecithins, and lastly by its soluble assimilable phosphates. The young, growing, omnivorous animal thrives best on its natural food, and the utilization of the food ingested is enormous in these conditions. With preparations derived from meat there is a deficit of one-seventh compared with the utilization of natural food, in health. But the case is reversed in conditions of debility, with imperfect digestion, or lack of appetite, from nervous or other causes. In these circumstances meat extracts restored the weight to normal more rapidly than the natural food, and they are therefore probably very valuable in similar conditions in man. The substances found most effective were Kemmerich's peptonum carnis (prepared by chemical hydrolysis), Liebig's extract and somatose, in the order named.

Treatment of La Grippe.—In the discussion that followed Huchard's communication (summarized, page 810), Mignot called attention to the peculiarity of the recent epidemic of la grippe, and that calomel seemed to have a specific power in aborting the disease. Fernet proclaimed that the kidneys are the important organs in la grippe, and everything should tend to keep them at their best. For this purpose he restricts patients to a milk diet, with abundance of drinks, and in serious cases a subcutaneous injection of salt solution. Rectal injections of diluted milk may be found useful; also baths to reduce the fever. He recommends applying a napkin wrung out of cold water to the thorax for half a minute, repeating from every hour to three times a day, not only in la grippe but in other passive congestions of infectious diseases. He explains its action as a stimulating effect on the sensory nerves of the thorax, thus stimulating the vagi by reflex action with consequent contraction of the capillaries in the lung and slowing of the heart's action. The effect seems to be most pronounced on the pulmonary or cardiac branches of the pneumogastric, according as the initial stimulation is applied to the side walls of the thorax or the precordial region. He disapproves of quinin in la grippe, as it has a depressing action and is therefore counterindicated, but he approves of strychnin as the best remedy for the nervous asthenia. He concluded: "It is not the mission of the physician to prescribe drugs; frequently our task is to keep people from taking the more or less dangerous remedies so extensively advertised or that happen to be the fashion."

Individual Tongue Depressor. FOURNIER.—"We never know the nature of the lesions we find in the mouths of our clients until we examine them. Frequently they are a great surprise, and the possibility of contagion by the wholesale use of a few tongue-depressors is by no means slight." For this reason Fournier considers the individual wooden depressor a great improvement. It is made as usual, only with a groove across the center, and costs about one-half a cent. Each one is broken across at the groove, as soon as the examination is finished, so that it can never be used again.

Systematic Percussion of Skull in Cranio-Encephalic Diagnosis. GILLES DE LA TOURETTE AND CHIPAULT.—The tone given on percussion of a region of the skull, the hair parted or shaved away, varies with the thickness of the bone; it is clearer as the bone is thinner. The sound is more distinct on the side of a trephining. In two cases of old fracture of the skull percussion produced an actual cracked-pot sound. The middle finger of the right hand is better than a hammer. The patient must keep his mouth closed. Premature synostosis of the bones of the skull can be detected by this means in heredosyphilitics, idiots, etc., and indicate liberating craniectomy.

Hyperostosis of Orbit. DIANOUX.—The progressive exorbitis imposed operation, and fragments of bone amounting to the size of a large nut were removed with gouge and mallet, through an incision parallel with the orbito-nasal margin. Electric treatment with continuous current completed the cure.

Vacher's Brain. J. V. LABORDE.—The experts who decided the responsibility of the famous "shepherd killer," Vacher, asserted that he had recovered from the temporary alienation for which he had been incarcerated, and was therefore responsible for the eleven murders for which he was executed. Laborde and three others have been making a study of the brain (left hemisphere), and state that the morphologic development is superior to the average, resembling that of Gambetta. Vacher's facility of speech and remarkable memory were frequently mentioned in the reports at the time. "A simple functional deviation is therefore capable of engendering a great assassin, who might have been under other circumstances a great orator and a great citizen." The remarkable development of the ascending frontal and parietal Rolandic convolutions and of the quadrilateral lobule, the motor regions par excellence, Laborde considers another proof of the close relations between function and organ, as Vacher walked and doubled on his steps, covering the most extraordinary distances to avoid detection. He concludes from his study that Vacher, a hereditary epileptic degenerate, was affected with maniacal delirium, with ideas of persecution, impulse to suicide and homicide, and sadism and inverse sexual depravity, and committed his ferocious, lustful crimes under the morbid and irresistible domination of this influence, with a system which does not deprive them of their impulsive and fundamentally delirious characteristics. This mental state does not necessarily imply an organic alteration perceptible by our present methods of research, but it may re-

side in and be explained by purely functional modifications of the organic substratum.

Rhythmic Tractions of the Tongue in Asphyxia During Typhoid Fever. J. V. LABORDE.—A soldier with hyperpyretic, septicemic typhoid fever suddenly developed alarming bulbar symptoms, with unconsciousness, trismus and asphyxia. The teeth were kept apart with corks, and rhythmic traction of the tongue restored the patient, who at once seized the forceps and continued the tractions himself. The asphyxia recurred a number of times during the following two hours, and each time the patient himself renewed the tractions and kept them up until he could breathe freely, not allowing anybody else to touch the forceps. Autotraction has been found effectual before—continuous for hiccough and repeated for asthma—but this typhoid case shows the ease with which it can be employed.

Presse Medicale (Paris), March 17, 21, 24 and 28.

Generalized Extravisceral Sarcomatosis. LEPEYRE AND LABBÉ.—Recklinghausen's neurofibromatosis is characterized by the development of fibromata along the nerve routes and on the skin, and by various nervous disturbances. In the observation described the syndrome differed from this in the sarcomatous nature of the tumors; the absolute integrity of the nervous system and lymphatic ganglia. The patient, a young man, died of cachexia in three months after the first appearance of the tumors. They were extremely numerous over the trunk, head and face; the connective tissue was crowded with them, also the mesentery, pericardium and peritoneum. In all the cases on record the patients were degenerates, with stunted physical and mental development, motor and sensory disturbances, paralyses and extensive nevi along the nerve routes.

Polyuria and Renal Impermeability in Arteriosclerous Heart Disease. P. MERKLEN AND A. MARTIN.—The research reported in this communication establishes that the polyuria observed in "asystolic cardiacs," which differs from the classic formula of the urology of asystolia, is in reality due to the milk diet imposed by their condition, and is a necessary and beneficent polyuria. The degree depends on individual predisposition and prolonged use of alcohol or rich food. Under the influence of the milk, the volume of urine increases and also the amount of urea contained in it. On suspension of the milk the amount of urine diminishes and dyspneic attacks occur. The kidneys in twenty-three cases examined differed but little from the cyanotic kidney common in heart disease. There was no atrophy, nor granulations, but the arterial contraction of the lumen of the arteries from the renal arteriosclerosis produced a kind of epithelial dystrophy manifested in impermeability, cellular dystrophy, mortification and desquamation of the epithelium. Milk compensates this renal impermeability of ischemic and dystrophic origin, and seems to have a specific action on the renal function, at the same time stimulating the secretion of water and the elimination of urea and of other excrementitial elements. The polyuria is the measure of its efficacy.

Cellular Retrogression of Striped Muscle Fibers. G. DURANTE.—In the course of the development of the striped muscles, a certain number of cells combine to form a muscle fiber. Durante has established that there is a lesion of the adult muscle, a mode of reaction to pathologic causes, absolutely distinct from degeneration, which consists in the retrogression of the muscle fiber, a return to the embryonal condition by retracing the development of cells into fiber, the primary cells becoming again more and more individualized. This cellular retrogression may be partial or complete, and usually leads to the lengthwise splitting of the fiber. This retrogressive process must not be confounded with degenerations which entail the destruction of the fiber. In the retrogression the fiber is retained *in toto*, but may undergo various transformations later. The process may result in accumulation of separate cells or of protoplasmic masses. In pathologic conditions the fiber may disappear from successive divisions and various metamorphoses, which may explain the etiology of simple atrophy, and also of interstitial adiposis and the apparent increase in the connective tissue in amyotrophy. In healthy muscles the elements thus isolated continue to flourish, instead of disappearing, and the result is numerical hypertrophy instead of atrophy.

Streptococcus Peritonitis. G. MILIAN.—A girl of 17 died from an acute peritonitis in which not a single lesion could be discovered in the alimentary canal or any abdominal organ. It seemed to have been an infection propagated from a preceding tonsillitis. The pus in the peritoneum contained the pure streptococcus.

Absorbing Capacity of Pleura. J. CASTAIGNE.—A soluble substance injected into the pleura of a dog is eliminated more rapidly and in larger amounts in the urine than when the same quantity is injected into the subcutaneous cellular tissue. Assuming that normal pleural absorption in man obeys the same laws, Castaigne has been studying the comparative absorption in 32 cases of pleurisy, and announces that the absorbing capacity can be utilized in the diagnosis. Pleural absorption in purulent streptococcus pleurisy is about the same as normal, while it is very much reduced in the pneumococcic and tuberculous varieties. In hemorrhagic pleurisy, only those with cancer showed a high absorbing power; in serofibrinous the pleural absorption in three cases revealed the nontuberculous character of the lesion. In regard to the prognosis, the purulent and hemorrhagic pleurisies in which the absorbing capacity was high always proved the most severe, but on the other hand, all the serofibrinous ones with high absorbing capacity during the first fifteen days terminated in the most rapid recovery and without adhesions. Of all the numerous means to increase the absorbing capacity tested, the most effectual were cauterization with a conical cautery, salicylates by the mouth or, better still, in the form of frictions of methyl salicylate on the thorax, afterward wrapped in cotton. These increased pleural absorption to a remarkable extent.

Dermatologisches Zeitischrift (Berlin), February.

Treatment of Syphilis in General and of Tabes Postsyphilitica in Particular. H. TSCHIRIEFF.—Seventeen years' experience in the neurologic service of the military hospitals at St. Petersburg and at Kieff has convinced Tschirieff that syphilis is a constitutional disease and is never completely cured, and that iodid given with the mercury prevents the absorption of the latter. He describes tests which confirm this prevention of absorption of mercury by the iodid, and explain the more frequent recurrences of syphilis, and especially of syphilitic affections of the central nervous system, when iodid was combined with the mercury. The method he recommends is a daily bath at 35 C., twenty to thirty minutes in length. Half an hour to an hour after the bath the inunction is made, for which he prefers mercurial soap, as it requires less time than the ointment. The back and sides he considers best adapted for the inunctions, which are made for six days, then omitted the seventh, repeated for five to six weeks; the mouth rinsed with saturated solution of potassium chlorate seven to eight times a day. After five or six weeks of inunction and an interval of one or two weeks a daily bath at 35 C. is taken three times a week and .5 to 4 gm. of a preparation of iodin three times a day, after meals, in a glass of milk or milk and Selters water. Sleep is regulated with bromids and the heart supervised. This method of treatment requires three months and usually gives remarkably fine results, not injuring the organism in any way, but actually raising the general tone and increasing the weight. One of his patients is a man of 60, who for forty years has taken a hot bath every day and makes several inunctions every week, and his health is as perfect as is possible for a man of his years. The causes of the frequent affections of the central nervous system are inadequate treatment of the syphilis, abusus spirituosorum, excesses of all kinds, including intellectual work, and frequent chilling of the body, especially the lower extremities, from climatic conditions. He treats postsyphilitic tabes with specific treatment, Charcot douches to the back, electrization of the spine and medulla oblongata, cauterization of the spine with the Paquelin every tenth to fourteenth day, strychnin pills to restore the function to the centers of erection and defecation, and subcutaneous injections of atropin and morphin for the lancinating pains. This treatment arrests and may possibly cure the sclerosis of the posterior columns of the spinal cord, which he considers the specific lesion of postsyphilitic tabes. Every case thus treated showed marked improvement.

Nordiskt Medicinskt Arkiv (Stockholm), March 10.

Fat Embolism. Death from Embolism of Olive-Oil. J. FIBIGER.—The patient was fed by alimentary injections per rectum, and subcutaneous injections of olive-oil (Leube) on account of stricture of the esophagus and stomach consecutive to cauterization with hydrochloric acid. About 2325 c.c. of oil had been injected in the course of nineteen days, and the weight had increased by 4600 gm., when cerebral and respiratory symptoms appeared, such as are observed in cases of fat embolism, with almost total left hemiplegia. The autopsy showed that deposits of the olive-oil had formed in the subcutaneous tissue and mesentery, and embolism of the oil was noted in all the chief organs, especially the brain and lungs. The largest number of emboli were found in the right motor centers of the brain, corresponding to the hemiplegia. Small fresh hemorrhages were also noted around the emboli. In the heart muscle some of the numerous emboli were surrounded by delicate globules of fat presenting the same appearance as in fatty degeneration, with pronounced segmentation and vacuolar degeneration. The fibers showing fatty degeneration did not seem particularly affected by segmentation, but vacuolar and fatty degeneration were sometimes combined in a single fiber. No bacilli were found in the heart. In the kidneys the emboli were accumulated in the glomeruli. The fat noticed in the urine was probably derived from these accumulations, and this fatty degeneration was probably due also to embolism. Experiments on rabbits, injecting olive-oil into the renal artery of one kidney, produced similar results, from which Fibiger concludes that in fat embolism of the kidney in man, with obstruction of the glomerular vessels, it is probable that at a certain, not far advanced stage of the disease, the lipuria is due to an accumulation of fat in the epithelium of the intermediate parts. The cells gorged with fat, become detached, and the free globules of fat are evacuated into the lumen of the tubes. The process in every respect resembles that of fatty degeneration, with which it is probably identical. It is possible, he adds, that disturbances in the circulation, caused by obstruction of the glomerular vessels with fat, may be the starting-point of the process.

Congenital Dilatation and Hypertrophy of Sigmoid Flexure in a Boy. K. G. LENNANDER.—Hirschsprung called attention to this deformity in 1886, but very few cases have been reported. In the observation described, the enormous size of the abdomen, diarrhea alternating with obstinate constipation, the flatulence and gurgling sounds in the abdomen suggested peritoneal tuberculosis, but study of the case convinced Lennander that there must be some congenital deformity, so he opened the abdomen, expecting to make an anastomosis. He found the sigmoid flexure colossal, and so dilated and thickened that the success of an anastomosis seemed dubious and he refrained, instituting faradization instead. Each day a liter of salt solution was injected into the rectum, and one of the electrodes inserted, while the other was applied to the exterior of the abdomen—the current as strong as the 4-year-old could bear—for ten minutes. This treatment was continued daily for three years. At the end of this time the appearance of the child had become normal, and the functions have remained regular to date, a year since dismissal.

Pathologic Importance of Version and Retroflexion of Uterus. G. HEINRICIUS.—Contrary to the generally accepted opinion, Heinricius does not ascribe any pathologic importance to backward displacements of the uterus, considering that the symptoms usually attributed to them are in reality due to complications on the part of the uterus or adjacent regions, or even of parts remote from the genital sphere. He thinks that orthopedic or operative treatment is useless unless indicated by an infection of the adnexia or something of the kind. Backward displacement of the uterus can not induce symptoms unless the organ presses on others in the neighborhood, and, in the majority of cases, hysteria and neurasthenia are the chief factors in the symptoms erroneously ascribed to the retrodeviation. He tabulates details of 200 cases.

Progres Medical (Paris), March 17.

Necessity of Lavage of Stomach Before Gastroenterostomy. R. BERLIN.—In an observation reported of cancer of the pylorus, there had been constant vomiting for a month. The debility was extreme and the stomach was not rinsed preparatory to operation, as authorities still disagree as to its necessity. But on puncturing the stomach a large amount of a blackish, fetid fluid was released, and a flood of undigested matters, including prunes and cheese, etc., forced its way out of the stomach, inundating the field. The patient died the next day, of septicemia. The food found must have remained in the stomach for seventeen days, the last date at which solid food had been taken, and in spite of the incessant vomiting. Even if the large fragments could not have been removed through the sound, the inundation would have been prevented and the patient probably saved by a preliminary lavage.

Muenchener Medicinische Woehenschrift. March 27.

Agglutinin. M. HAHN AND R. TROMMSDORFF.—Typhus and cholera bacteria, after being agglutinated with specific sera, were shaken up in a 1/100 normal solution of soda or of sulphuric acid, and left to soak for an hour. At the end of this time the agglutinating substance had been extracted from the bacteria and was in suspension in the fluid, producing agglutination even at one-tenth dilution. The same effect was obtained after neutralization of the alkali.

Pseudomucin in Ovarian Cysts. ZAENGERLE.—Crystals obtained from this pseudomucin are soluble in water, are dextrorotatory, react to Trommer's test and develop ammonia when boiled with alkali. They therefore resemble the glucosamin obtained from the mucin of the sputa and submaxillary glands and from ovomucoid and egg albumin. Pfannenstiel has established that the pseudomucin is a product of the goblet cells which line the walls of cystoma, and as the mucin of the salivary glands and air-passages, and also egg-albumin and ovomucoid are products of glandular activity, these glucoproteids evidently form a group of bodies distinguished by the fact that they are the products of secretion of cells and of gland-like cells in particular, although not a regular gland secretion.

Early Diagnosis of Tuberculosis. Puncture of the Lung. M. HENKEL.—According to experience at Hamburg, the first signs of tuberculosis are not at the apices, but noted by ausculation in the fossa supraspinata and infraspinata, the region between the shoulder-blades, and first of all in the fossa infraclavicularis. The sound is compared by Turban to the whining of puppies. The clinical symptoms sometimes suggest tuberculosis, but no bacilli can be found, and in these cases Henkel punctures the lung at the point where the signs are most pronounced. In certain observations the sputa came from the non-tuberculous catarrh, while the tuberculous lesions were ensconced in remote capillaries, making no external manifestations. In such cases puncture might afford valuable information. A minimal amount of fluid is sufficient for bacteriologic investigation. The sensation as the needle enters the tissues is also instructive. No bleeding ever followed, and only very rarely was the sputum bloodstained for a few moments. The temperature rose slightly in a few cases, for a very brief period.

Surgical Intervention on the Heart. C. STERN.—THE JOURNAL has described—page 491 of the current volume—Rotter's method of opening up the heart to suture wounds. Stern relates an observation of a young man, shot through the heart, in which the organ was exposed according to Rotter's directions, with amazing ease and success. The front wound was sutured, but it was impossible to reach the wound caused by the exit of the ball, and tamponning proved ineffectual to prevent a fatal termination. He thinks that surgical intervention on the heart in case of stab-wounds can now take its place as a current operation with tracheotomy, etc., but with wounds from firearms the matter is more complicated, on account of the greater probability of a second wound at the rear of the heart. Suture of a wound at the rear lower pole of the left auricle—the location in his case—proved absolutely impossible.

Bulletin de la Soc. Med. des Hop. de Paris, March 15 and 22.

Leucocythemia with Mononuclear White Corpuscles G. HAYEM AND G. LION.—In the three observations reported, the leucocytosis was considerable (527,000), and this increase was exclusively at the expense of the mononuclears, and of the colorless, translucid variety. The affection was chronic in all.

Epidemic of Pneumococcus Septicemia in Nurslings. LESAGE.—Sixteen nurslings at the Trousseau Hospital, last August, were affected with a sudden acute septicemia, fever 41 C., with violent dyspnea and evidences of general infection. All died except one, and the epidemic died out in five days, from lack of further subjects. No lesions of any importance were found, but the bronchi were filled with an intense culture of pneumococci. Similar epidemics have been observed with streptococci, but Lesage has never found the pneumococcus pure before. There was slight diarrhea in a few.

Bacteriology of Measles. LESAGE.—Two hundred cases of measles were studied and rabbits inoculated with nasal mucus or blood, from a large number. The results were positive in nearly every case, and Lesage considers himself justified in announcing that the delicate micrococcus he found so constantly probably has something to do with the etiology. As far as it is possible to recognize measles on a hairy animal, he thinks his inoculations induced the disease. The micrococcus cultivates best on gelose; decolors with Gram; takes stains slowly. The cultures resemble those of the pneumococcus. It was not found in 25 cases of scarlet fever, but constantly in six cases complicated with measles, also in two cases of measles complicating diphtheria; it was never found in 45 normal children, and only twice in 53 children who had had the disease previously.

Bacteriology of Acute Articular Rheumatism. TRIBOULET.—Comparing clinical findings with those of bacteriology, Triboulet establishes that simple, uncomplicated rheumatisms are amicrobian, while the grave complications are evidently secondary infections. Bacteriology will in time determine, among the clinical varieties, those of lesser importance, which leave no pathologic defect, and those which may prove fatal and leave permanent lesions. Research should now be directed to establish the connection between this or that clinical complication and the various microbian infections. It seems probable, according to our present knowledge, that the staphylococcus and streptococcus induce moderate infections, that the presence in the blood of the diplococcus described by the writer may confer a character of subacute permanence on the rheumatism, while Achalme's bacillus is rarely met during life, but is found at the autopsies of the prolonged or fulminating cases in which polyinfection is frequent.

Societies.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, Atlantic City, N. J., June 5-8.
Medical and Chirurgical Faculty of Maryland, Baltimore, April 24.
Texas Medical Association, Waco, April 24.
American Proctologic Society, Washington, D. C., May 2 and 3.
Illinois State Medical Society, Springfield, May 15-17.
American Medico-Psychological Association, Richmond, Va., May 1.
American Association of Anatomists, Washington, D. C., May 1-3.
American Association of Genito-Urinary Surgeons, Washington, D. C., May 1-3.
American Laryngological Association, Washington, D. C., May 1-3.
American Surgical Association, Washington, D. C., May 1-3.
American Association of Physicians, Washington, D. C., May 1-3.
American Climatological Association, Washington, D. C., May 1-3.
American Dermatological Association, Washington, D. C., May 1-3.
American Orthopedic Association, Washington, D. C., May 1-3.
Arizona Medical Association, Prescott, May 2-3.
American Gynecological Association, Washington, D. C., May 4-6.
Medical Society of State of North Carolina, Torboro, May 5.
American Pediatric Association, Washington, D. C., May 7-9.
Ohio State Pediatric Society, Columbus, May 8.
Nebraska State Medical Society, Omaha, May 8-10.
Washington State Medical Society, Spokane, May 8-9.
Oklahoma Territory Medical Society, Oklahoma City, May 9.
Ohio State Medical Society, Columbus, May 9-11.
Kentucky State Medical Society, Georgetown, May 9-11.
Medical Association of State of Missouri, Mexico, May 15-17.
Medical Association of Montana, Butte, May 16.
Iowa State Medical Society, Des Moines, May 16-18.
Arkansas Medical Society, Jonesboro, May 14-16.
Connecticut State Medical Society, New Haven, May 23-24.
Association of Military Surgeons of the United States, New York City, May 31 to June 2.
North Dakota State Medical Society, Grand Forks, May 23-24.
Indiana State Medical Society, Anderson, May 24-25.
New Hampshire Medical Society, Concord, May 31 and June 1.

Association of Military Surgeons of the United States.—The ninth annual meeting of this Association will be held in New York City, May 31, June 1 and 2, at the New York Academy of Medicine, instead of on the dates formerly announced.

Hornellsville Medical and Surgical Association.—At a recent meeting of this Association, Hornellsville, N. Y., the following officers were elected: president, W. E. Palmer; vice-president, C. O. Green; secretary and treasurer, E. E. Webster.

Cuyahoga County Medical Society.—This Society held its annual meeting in Cleveland, Ohio, April 5. The election of officers for the ensuing year resulted as follows: president, C. F. Aldrich; first vice-president, W. E. Lower; second vice-president, J. P. Sawyer; secretary, C. C. Stuart; treasurer, L. S. Chadwick.

Fairfield County Medical Association.—The 109th annual session was held by this Association in Bridgeport, Conn., April 10. The following officers were elected: president, L. T. Day, Westport; vice-president, F. P. Clark, Danbury; clerk, George S. Ford. Delegates were also appointed for the coming meeting of the AMERICAN MEDICAL ASSOCIATION. The next annual meeting will be held in Bridgeport.

Pennsylvania Society for Prevention of Tuberculosis.—This Society, organized eight years ago, held its annual meeting in Philadelphia April 11. The election of officers resulted as follows: president, Guy Hinsdale; vice-presidents, H. S. Anders, J. Solis Cohen, William Moss, Moses Veale, Benjamin Lee, Talcott Williams, S. A. Knopf of New York. Dr. Lawrence F. Flick called attention to the fact that similar societies have been organized in other cities, and boards of health have also taken up the work, especially the state boards.

Marshall County Medical Society.—This Society held a meeting in Plymouth, Ind., April 12. The newly-elected officers are: president, A. C. Holtzendorff; vice-president, Jacob Kasner; secretary, N. B. Aspinall. Dr. T. A. Borton, of Plymouth, presented the Society with an antique mortar which he has had in his possession for about thirty-two years. It is the mortar brought to this country from France, by Dr. De Bruns, who was surgeon of Lafayette's first expedition. It is chiseled from a solid block of marble and shows marked signs of its great age. The Society voted to present the mortar to the Indiana State Medical Society's historical department, and it will be exhibited by the latter at the coming meeting of the AMERICAN MEDICAL ASSOCIATION.

Medical Association of District of Columbia.—At the meeting of this Association, held on the 3d, in Washington, D. C., the following officers were elected: president, S. S. Adams; vice-presidents, H. E. Deal and J. W. Chappelle; secretary, M. G. Motter; treasurer, Frank Leech; counsellors, R. T. Holden, G. N. Acker, W. P. Carr, H. L. E. Johnson, D. O. Leech, Clifton Mayfield, J. H. McLean, G. C. Ober and T. R. Storm; censors, W. C. Woodard, G. W. Cook and L. C. Glazebrook. Forty delegates were elected to the next meeting of the AMERICAN MEDICAL ASSOCIATION. A special committee, consisting of Drs. Adams, Deal and Chappelle reported resolutions of regret on the death of Dr. D. Webster Prentiss, the president of the Association, who died a few months ago, and also

resolutions on the recent death of Drs. May, McWilliam and Miller, ex-presidents of the Association.

American Laryngological, Rhinological and Otological Society.

Southern Section, Louisville, Ky., March 30, 1900.

The address of welcome was delivered by Dr. S. G. Dabney, of Louisville, and responded to by Dr. L. B. Graddy, of Nashville, Tenn.

CHAIRMAN'S ADDRESS.

DR. J. A. STUCKY, Lexington, Ky., in his address, directed attention to the rapid progress made in recent years in the explorations of the cavities of the nose and throat, reviewing step by step the introduction of cocain anesthesia, illumination of cavities and the possibility of doing bloodless operations by means of suprarenal extract. The use of ointments, powders and douches is now of questionable utility, and the atomizer fiend is falling in line with the hypodermic fiend. He called attention to the fact that the laryngologist now removes the larynx and the patient not only lives but talks; the otologist chisels away portions of the skull and the patient not only lives but hears; and the rhinologist makes the nasal passages as smooth as a gun barrel. All this progress has been freely given to the public and the physician has made himself the servant of the profession; there is no longer any clash between the specialist and the general practitioner.

REMOVAL OF 107 POLYPI.

DR. H. W. LOEB, St. Louis, Mo., presented the first paper, its title being "One Hundred and Seven Polypi Removed at One Sitting, with Remarks as to the Value of the Electrocautery Snare in Removal of Polypi." The case was that of a negro man, in the City Hospital, who had been operated on for sarcoma of the orbit, with removal of the left eye. He was very weak at the time of operation, which was completed at one sitting; 68 pieces were removed from one side and 59 from the other; eliminating 20 of these, there remained 107 well-formed polypi, which Dr. Loeb exhibited. Their weight was 77 grains, and they would about fill a two-ounce bottle. Dr. Loeb used the snare for the reason that it enabled him to do the work at one sitting, because of the freedom from hemorrhage and the rapidity with which it could be done. The snare differed from the ordinary electrocautery snare in that the wire did not pass entirely through the canula, but was more easily threaded. The patient had some recurrence but had left the hospital and had not been located.

DR. NORVAL H. PIERCE, of Chicago, thought the operation would have been impossible with any other form of snare because of the profuseness of hemorrhage with the cold snare in removal of tumors. He thought an improvement could be made in the shaft of the one used.

DR. WM. CHEATHAM, Louisville, had the same objection. He also expressed himself as being fearful of secondary hemorrhage after removal of tonsils and polypi with the electrocautery snare.

DR. THOMPSON, Cincinnati, Ohio, mentioned a patient with two very large polypi, one being 2½ inches long and three-fourths of an inch in diameter; the other 1¼ in length and three-fourths of an inch in diameter. One feature was a constant headache for fifteen years, which never left during her waking hours, due to supraorbital neuralgia.

DR. S. G. DABNEY, Louisville, reported a case of fibroid-mucous polypus which caused constant vomiting. It was removed with the electrocautery snare, with no subsequent trouble.

DR. J. A. STUCKY mentioned a case operated on eight years before. The nose was 2½ inches at the base, turbinates absorbed, cartilaginous septum gone. The polypi were removed at three or four sittings with the cold snare and curette. The antrum was full of them and the ethmoid had to be curetted. He has operated twice since then, but during the last two years has had no reported recurrence. A 25 per cent. chromic acid solution was used the last time, with alarming gastric and nervous symptoms, with septic symptoms continuing for several days.

DR. T. V. FITZPATRICK, Cincinnati, Ohio, was gratified to know of the ease with which so many polypi had been removed at one time with the electrocautery snare, and also commented on the extent to which inflammatory tissue will develop in the nose. Recurrence will result whenever this inflammatory tissue is left behind.

DR. H. W. LOEB, in closing the discussion, said that the objection to the bulkiness of the shaft was not valid because of the fact that it was used only in cases where there were a large number of polypi, where the nose was naturally more capacious. It was not to be used when they were small and few in number. He thought that Dr. Cheatham was unduly afraid of secondary hemorrhage, for in eight years of almost exclusive use of the electrocautery snare he had had practically no secondary hemorrhage. He attributed much of this success to the cleanliness of his instrument, and said that with the cotton cloth-covered instrument it was impossible to prevent infection. As to the recurrence of the polypi after the use of the electrocautery snare he was not so enthusiastic as in earlier years, but still believed that its possibility was greatly lessened by the use of the electrocautery. There was a recurrence in the case under discussion, but the man had not been found and no definite report could be given.

DR. WM. CHEATHAM then exhibited his modification of the instrument referred to.

PERITONSILLAR ABSCESS.

DR. NORVAL H. PIERCE, Chicago, then presented a paper on "The Treatment of Peritonsillar Abscess, with Exhibition of New Instruments." The chief objects of the paper were to accentuate the proper place for incision and to present instruments to meet the indication. He said that nothing was more annoying than an unsuccessful attempt to reach the pus, and nothing more gratifying than its removal, which was nearly always curative. Early incision is not only justifiable but indicated, for the abscesses do not always rupture spontaneously. He referred to the fact that most authorities recommended incision at the point of bulging, generally at the upper anterior surface of the anterior pillar, 5 cm. from its edge. This bulging is not always due to pus, but may be from edema or from the tonsil itself. He said that spontaneous rupture takes place through the anterior pillar, and that by far the most frequent place is the fossa supratonsillaris, and this he recommends as the proper place for incision. This fossa may be best seen by pulling out the tongue, depressing its dorsum with a spatula, pushing outward the opposite corner of the mouth and inclining the head to the opposite shoulder. He described this fossa as situated between the anterior and posterior palatal arches and above the tonsils; its opening is triangular, the base formed by the tonsil and the anterior and posterior borders by the pillars of the fauces. It extends inward, upward and outward into the soft palate downward and anteriorly between the tonsil and plica triangularis and sends prolongations downward for a variable distance behind the tonsil. The abscess may begin in the upper or palatal portion or even behind the tonsil; wherever it may be, it can be best reached by incision at a point between the anterior and posterior pillars; this was the emphatic point of the paper.

DR. H. A. LOEB opened the discussion by confessing that he had been trusting to luck in these operations, and that he had frequently been disappointed by failure to find the pus at the point of bulging. He intends to work on the fossa supratonsillaris hereafter.

DR. THOMPSON suggested that the forceps might be improved so as to prevent the blade from slipping.

DR. WM. CHEATHAM also confessed to frequent disappointments and failure to find pus. He had never opened at the supratonsillar fossa. The abscesses pointing posteriorly had given him the most trouble.

DR. COCHRAN said that his patients had been unable to open the mouth to any great extent, and that he usually employs a syringe with very hot water until the parts relax. He then opens at the point of bulging, with a straight or partially curved knife.

DR. S. G. DABNEY thought these instruments much superior

to those of Dr. Leland of Boston, exhibited some years ago for a similar purpose.

DR. CHEATHAM mentioned a case of slow venous hemorrhage to an alarming extent.

DR. BALTZER reported a case which bled for about a month after incision.

DR. J. A. STUCKY referred to the instrument suggested by him in a paper read before the Mississippi Valley Medical Association at Nashville. It was shaped somewhat like a corkscrew, and was for puncturing the tense sheath behind the anterior pillar and the tonsil. He agreed, however, that the supratonsillar fossa is the best place for puncture, but thought Dr. Pierce's knife should have a shorter blade. As to palpation of abscess, he was sure that there was nothing in it.

DR. N. H. PIERCE, in closing the discussion, said that he had never been troubled with hemorrhage from a peritonsillar abscess, though he had in removing tonsils. He regards the apex of the tonsil as its most important part, the part which rests in the fossa supratonsillaris, and said there would always be a recurrence unless this was removed. As to the instruments, he intends having them improved, but does not think the knife blade too long. With regard to prophylaxis, he designated oil of wintergreen as his particular hobby, two No. 1 capsules every two hours until perspiration breaks out and ringing of the ears ensues. He thought possibly some cases had been cut short. He regards palpation as a cruel and unnecessary procedure.

INSTRUMENTS.

DR. L. B. GRADDY, Nashville, Tenn., exhibited several instruments for which he claimed no special originality, but which he found very useful. One was a small canula something after that introduced by Hartman, which can be introduced through a small opening in the drum membrane in cases of long suppuration and, with the syringe attached, one can wash out retained secretions, quantities of which can be removed in this manner. He claimed there are no cases of incurable middle-ear trouble; histologically and pathologically there is no reason why, if properly cleansed, they should not heal. So long as an odor remains the remedy has not been successful. It is often difficult to tell whether retained secretions or diseased bone is the cause of the odor. With an instrument filled with powder, with an attached tube's free end in the mouth, the medicament can be applied to the roof of the middle ear or mastoid cavity.

The other instrument exhibited was a trephine for performing a radical tympano-mastoid operation, doing away with the chisel and hammer.

(To be continued.)

Cleveland Medical Society.

March, 9, 1900.

Presiding Officer—J. B. McGee, vice-president.

TUMOR OF MAXILLA.

DR. C. A. HAMANN presented a child, 11 years of age, who had come to him 2½ years previously suffering with a tumor of the right maxillary. He had removed the entire superior maxillary bone, part of the malar, and also the floor of the orbit, through an incision along the median line of the lip, the nasal fold and the lower margin of the orbit. No recurrence of the growth, which proved to be a spindle-celled sarcoma, took place. This child, however, recently presented herself again with an enlargement of the left side of the inferior maxilla, which raised some suspicion of recurrence. After waiting a few days an abscess was found in the submaxillary region and was opened and drained. The swelling of the lower jaw was due to the enlargement of the lymphatic glands of the submaxillary region, some of which are peculiar in that they lie right on the periosteum both on the inner and outer surface of the bone. He has seen several cases where enlargements of these glands, due to epithelioma of the lip, closely simulated a neoplasm of the bone, and in such cases it is always necessary to remember the situation of these glands.

DR. J. M. INGERSOLL said he had seen a similar case involving the entire superior maxilla, but the father refused to have an operation, and he has not seen the patient since.

DR. W. T. HOWARD noted the fact that two cases of submaxillary abscess have been reported in which amebæ were found. As they occurred prior to the time that it was possible to cultivate them, it can not be told whether or not they belonged to the ameba coli group.

DR. C. A. HAMANN added that no plate had been inserted in the oral cavity, because the child had not yet developed permanent teeth. As soon as this can be done the asymmetry of the face will be less conspicuous.

SURGERY OF INGUINAL HERNIA.

DR. C. B. PARKER read a paper on "The Cure of Inguinal Hernia by Surgical Means." He said that not every case of hernia should be operated on. In cases of reducible hernia where a truss holds the hernia and it can be worn without discomfort, operation is unnecessary. In all other forms he advises operation. He makes a flap incision through the skin, exposing the external ring to a point one inch beyond the position of the internal abdominal ring, and, having reflected it, divides the aponeurosis of the external oblique muscle. He frees the oblique internal and transversalis muscles and Poupart's ligament for the full length of the first incision. Then he opens, empties, and draws down the sac, cuts it off and closes it with a continuous chromicised catgut suture.

If any omentum is to be removed, he ligates the individual vessels. He closes the transversalis fascia with catgut, depresses the cord against the pubes and sews the conjoined tendon to Poupart's ligament; also the pillars of the external ring. The internal oblique and transversalis muscles are to be united to Poupart's ligament with kangaroo tendon. A cuticular catgut suture completes the closure of the wound. A plaster-of-Paris splint is placed over the aseptic dressing to ensure complete rest. Conclusions: 1. The operation is nearly free from danger. 2. The closure of the internal abdominal ring is essential to success. This is accomplished by: *a*, closing the sac with a continuous suture; *b*, uniting the transversalis fascia and, *c*, closing the internal oblique and transversalis fascia the entire length of the canal; *d*, depressing the cord on the pubes, thus preventing possible pressure on or pulling on the cord with constant swelling or atrophy of the testicle.

DR. T. C. MARTIN asked why a child, when the subject of acquired hernia, recovers without operation. A child's mesentery is relatively much longer than that of the adult, while the pelvis is contracted and the abdomen pendulous. This places the abdominal ring in a much more dependent position, while the long mesentery permits of such mobility as to expose the abdominal ring to increased pressure at this period of life. He thinks that the wearing of a truss by such a child does not effect a cure, although it is helpful.

DR. R. J. WENNER asked what percentage of cases of hernia in children are cured by the wearing of a truss. He thinks that the continued pressure of one, especially if worn at night as advised by some authorities, tends to weaken the part over which it is placed rather than to strengthen it. As the internal ring is patent he does not see how pressure could ever close it. Recently surgeons have been operating on infants as young as seven months. In his experience kangaroo tendon, no matter how sterilized, has not proved to be an aseptic suture material. Several weeks after its insertion he has seen infection occurring about the sutures.

DR. F. E. BUNTS commended the author's advice to lay the cord around in its normal position in the inguinal canal. His experience with kangaroo tendon has also been unfortunate, and he has, in a number of cases, met with late suppuration occurring wherever this material has been used. He has used the kangaroo tendons of the various manufacturers, and has also tried his own methods of sterilization, but has not succeeded in obviating the unfortunate result. Considering the excellent results the author has obtained from operation even in cases of strangulated hernia, he could hardly understand his position against operating in cases in which the hernia can be retained by a truss. As the operation is practically devoid of danger, he thinks it the best thing to do in all cases.

DR. R. J. WENNER asked what had been the essayist's experience in the treatment of indirect hernia when there was considerable separation of the fascia.

DR. C. B. PARKER, in closing, said that Dr. Martin had

pointed out one well-recognized cause of hernia in children, and that another is the fact that at this age the internal and external rings are nearly opposite, while as the pelvis broadens they become separated. He said that before operating he places his kangaroo tendon in pure ether, and just before using it washes it first in alcohol and then in sterile water. Stitch abscesses do occur, but he thought they were due rather to the effect of prolonged operation, or to some slip in the aseptic technique, than to the tendon. The reason he does not favor operation in all cases of hernia is that there are certain dangers inseparable from operation. Not all accidents can always be prevented. The after-effects of general anesthesia are sometimes quite serious.

TREATMENT OF LACERATED WOUNDS.

DR. W. E. LOWER read a paper embodying observations based on 2500 cases. As all lacerated wounds are more or less infected they should be treated antiseptically, as it is practically impossible to render them aseptic. The best antiseptic is corrosive sublimate. It is effective and economical. Carbolic acid, formalin, and others of the new antiseptics have not stood the test as well as the bichlorid. Iodoform and dusting-powders are not used on first dressings, as they are not antiseptic. About 50 per cent. of patients in whom iodoform is used develop a dermatitis, and this, with its disagreeable odor, should condemn it. Ointments and poultices like powders are condemned. Just as little of the lacerated tissue as possible should be cut away. It is better to dress a wound with doubtful tissue remaining than to sacrifice what might be saved. Let Nature decide what is to be lost and it may be readily removed later. The skill of a surgeon is shown in what he can save and make useful, and not in what he can destroy. If tendons or nerve-trunks are severed they should be sutured at once. Rarely is it necessary to suture a lacerated wound, especially of the fingers or scalp. The edges may be approximated by a gauze bandage, and over this a profuse dressing of gauze and cotton saturated with bichlorid is applied. Much destruction of tissue and impairment of function results from the pernicious practice of making a close approximation and suture of lacerated wounds. Approximation by adhesive strips is even worse. The first dressing is wet and the subsequent ones are moist. A wet dressing is completely saturated by this solution; a moist one is wrung dry. When laceration is near a joint, the injured part should be put to rest by splint or fixation to the body. If no trouble arises, the first dressing remains on two days. A moist one is then applied every second day. When granulations appear, boric acid may be used as a dusting powder. This has proved to be the best and most economic. Under treatment as outlined, infections seldom if ever occur. At the first sign of redness, pain or swelling, the part should be sacrificed and a wet bichlorid dressing applied every three or four hours.

DR. W. T. HOWARD asked the essayist if he had, in this large series of cases, met with one of emphysematous gangrene. In the last five years he had met with 14 cases in which the gas bacillus had invaded the human body just before or after death, but he had not been able to find a single case of emphysematous gangrene in this city, although he had seen some cases in Baltimore.

DR. J. F. HOBSON emphasized the importance of primary cleansing of the injured part. As in these cases, particularly of injuries to the hand, the part is often exceedingly dirty, and he at times finds it necessary to give an anesthetic in order to completely cleanse the part. He indorsed the practice of using no suture material in bringing together the edges of a lacerated wound. In injuries to the hands conservatism is often carried too far, and parts are saved that are either of no use or are actually in the way.

DR. F. E. BUNTS said that one would scarcely think that there would be any material difference of opinion as to how to treat lacerated wounds, and yet very often he has seen well-trained physicians dressing a lacerated wound with adhesive plaster. The intelligent treatment of these minor injuries is very important. He is of the opinion that iodoform has no place whatever in a surgeon's office. He said that in the hospital, where it can be sterilized and used in this condition, it may possibly be of some service, but otherwise it is never antiseptic.

DR. C. B. PARKER emphasized the advisability of not using sutures in closing lacerated wounds, and also the importance of complete rest to the injured part. In case of a crushed hand, it is well to place the member in a splint during the period of possible infection. It also is well to fix the elbow.

DR. A. R. BAKER pointed out that there is one class of lacerated wounds in which moist antiseptic dressings should not be employed, that is, those occurring in or close to the eye. In wounds of the face or cheek, the eye, if possible, should not be covered by a bandage, but if it must be, it is well to dust boric acid powder over it, and cover it with a little gauze and cotton and a piece of oiled silk.

DR. W. E. LOWER, in closing, said that he had not met with a case of emphysematous gangrene. It is his practice in case of lacerated wounds of the hand to immerse the member in bichlorid solution and not to scrub it any more than necessary.

EPITHELIOMA OF TONSIL.

DR. J. M. INGERSOLL reported a case of primary epithelioma of the tonsil, a rare condition, about 120 authentic cases having been reported. The patient was a well-developed man, 42 years of age, whose right tonsil had been increasing in size and paining him for thirteen weeks. It was covered by a fairly firm, irregular, fungoid mass covered by mucopurulent secretion. The lymphatic glands at the angle of the jaw on the right were involved. A piece of the tumor was removed and microscopic examination showed a typical epithelioma. A radical operation was advised. The patient consulted several reputable men and then placed himself under the care of a so-called "cancer specialist," and died in his office about two months later.

Johns Hopkins Hospital Medical Society.

Baltimore, Md. April 2, 1900.

President—Dr. Henry M. Thomas.

SIMULTANEOUS PARALYSIS OF MOTHER AND CHILD DURING LABOR.

DR. HENRY M. THOMAS exhibited a white woman and her 8-weeks-old infant, both suffering from paralysis due to injury received in the same labor, which was an exceedingly difficult one, lasting 1½ hours and requiring forceps. On delivery the nurse noticed that the left arm of the infant was paralyzed, and that there was a lesion of the left side of the neck. The limb remains close to the side and the hand is rotated far in. There is no deltoid movement, but the child can move fingers and grasp. The electric reactions are unchanged.

Duchenne first described this form of paralysis, which he called "obstetrical paralysis." He had had four cases from labor and had seen other similar ones in adults from injury of the neck involving the fourth and fifth cervical roots. There has been much study of the subject but nothing new added since Duchenne wrote. Three similar cases have been exhibited in the Johns Hopkins Hospital during the past winter, all in infants. The prognosis is not so bad as Duchenne believed it.

The mother is 25 years old, and of good family history, with nothing of importance to note. The forceps is said to have slipped six times before the delivery of the head. On recovery from the anesthesia there was great pain in the legs and paralysis of both. She got up in ten days and has improved, but most in the right leg. There has been no disturbance of sensation at any time. Knee reflexes are good, but there is no tendo Achilles' reflex. The woman has a peculiar wabbling gait, with dropping of the toes. There is partial reaction to degeneration. The woman is small, but the child, when born, weighed 12½ or 13 pounds. The case is believed to be unique, in its involvement of both mother and child, and in the bilateral character of the paralysis in the former. Injuries of the sacral plexus in labor are rarely referred to in the text-books, but have been noticed in France a long time. Hunermann speaks of it in the *Arkiv. f. Gyn.*, 1892, and Lloyd, in Twentieth Century Practice, gives the best description extant of it. It is known that multiple neuritis may develop after labor, but this seems to be a traumatic injury to the sacral plexus.

STONE CRUSHING.

DR. A. T. CABOT, Boston, read a paper giving the results of stone crushing in his practice, which embraced litholapaxy, 122

cases; suprapubic lithotomy, 12; perineal lithotomy, 1 case. The average age was over 60 years, and the bladder was diseased in nearly all. He remarked that stone is rare in New England, and extremely so in children there. Of the 122 litholapaxies, 6 patients died shortly after operation. Thus there is a death-rate in those over 60, of 4 per cent., which is practically no risk. The results are about those of ovariotomy. In only 2 instances did litholapaxy have to be abandoned, and there was but one serious accident—rupture of the bladder—already fully reported. Laparotomy was done and the patient recovered. There is no danger of ripping the bladder unless the end of the instrument is turned over so that its point becomes imbedded in the wall. No serious nor lasting injury has ever been noted. There were two cases of recurrence in uric acid calculi; in one of these two operations and in the other three were done.

In one case the nucleus of the stone was a piece of catheter, and in another a piece of shoestring; neither offered any impediment to the operation. He also spoke of the ease and certainty with which the stone can be examined and measured with the instrument. The low death-rate, the short convalescence and the absence of wound and injury to the bladder give his operation advantages over lithotomy and the English surgeons in India are enthusiastic advocates of it, and they have an experience vastly greater than here. In conclusion, Dr. Cabot exhibited the instruments employed in the operation. The necessity of absolute patience and gentleness in operating was insisted on.

DR. W. S. HALSTED spoke of the skill needed in the performance of litholapaxy and of the risk of catching the bladder, and the bad results. He had contented himself, therefore, with the operation which he understood and whose results had been satisfactory—suprapubic lithotomy.

DR. J. M. T. FINNEY spoke in the same strain. All his cases with one exception had been suprapubic lithotomies; the exception being a perineal lithotomy.

DR. H. H. YOUNG quoted from the statistics of a Russian operator, showing the satisfactory results of the suprapubic operation.

DR. A. T. CABOT, in concluding the discussion, said the operation did not demand any unusual skill. It was not more difficult than introducing a catheter. Any surgeon who could not do it, he thought, had better seek some other employment.

ADVANTAGES OF CYSTOSCOPIC STUDY OF HYPERTROPHIED PROSTATES. REPORT OF CASES.

DR. HUGH H. YOUNG spoke on this subject, and especially on the results of the modified Bottini operation. His views have already been referred to in these columns. (See THE JOURNAL, Nov. 25, 1899, p. 1360.

Los Angeles County Medical Association.

Los Angeles, Cal., March 16, 1900.

CO-OPERATION OF PHYSICIANS.

DR. WALTER LINDLEY spoke on the co-operation of physicians in semiprofessional business matters. He said that the general idea is abroad that physicians can not get on amicably with each other, and he believes that where there is dissension between members of the profession, the cause is usually lack of intimate association and knowledge of each other. Every physician means to gain a competence for his family. To do this requires more than simply saving a man's earnings. He must also invest his savings so that they will grow. As a rule physicians are not good business men, because they have not turned their attention to business. Dr. Lindley cited the California Hospital, Los Angeles, as a good example of the successful co-operation of members of the profession in some professional business. The California Hospital Association was incorporated by twenty physicians, and now has a capital stock of $100,000. They own the hospital, a building of one hundred rooms, and the extensive grounds surrounding it. The advantages of this co-operation are that the profession of Los Angeles have a hospital that is run to suit them on the most modern progressive lines, while at the same time they have an excellent place for investing their surplus funds, and this investment has steadily paid a good substantial interest. It has also furthered the association of the profession in this hospital work, and has brought about a far better feeling that ever existed before in the profession of this city, and there has never been a particle of friction or dissatisfaction. An average of twenty-five physicians daily see patients there and, as said before, everything has moved on with perfect amity.

Another corporation of physicians is just being organized to establish a health resort in the pine forests of the mountains 100 miles from Los Angeles. This company is organizing with $250,000 capital. It has bought a tract of land 1½ miles long and one-half mile wide, with running streams, and springs and forests of pine and oak. Within a year will be established on this tract, one mile apart, two institutions, one a central pavilion for dining room, kitchen and places of entertainment, surrounded by cottages, each containing three rooms and a bath—this will be for tubercular patients. One mile away there will be a building erected more in the style of a general sanatorium, which will be a general resort for persons who desire to go to the mountains for rest and pleasure. The altitude of this California mountain resort is 5120 feet. Thirty physicians are furnishing the capital for this institution and they propose to have a place here in the pine forests of California to which members of the profession, both East and West, can send their patients with confidence.

EXTRAUTERINE PREGNANCY.

DR. E. R. SMITH reported a case of extrauterine pregnancy, exhibiting a specimen, the special point of interest being that he had operated on the patient about nine months previously for the same condition on the other side.

Philadelphia County Medical Society.

March 14, 1900.

President—Dr. John H. Musser.

HANGING.

DR. E. W. HOLMES read a paper on the anatomy of hanging, comparing hanging and strangulation, with a description of the anatomic lesions produced by hanging, a consideration of the methods of judicial hangings and an analysis of the sensations of those hanged and resuscitated. In the majority of legal executions of this nature death does not occur from a fractured vertebra, but from strangulation. Of 368 suicides, 189 were by hanging, and in England, within five years, 2500 persons found death in this way. Regarding the sensations produced, first there is a flash of light before the eyes, a hissing sound in the ears, bulging of the eyes, a sense of weight on the feet, and then a sense of suffocation followed by unconsciousness. The changes produced by hanging seem to be: 1, asphyxiation; 2, cerebral congestion; 3, coma; 4, nerve paralysis; 5, shock and cerebral concussion. In the majority of hangings death usually occurs in from six to seven minutes, but the body is generally left suspended by the neck for half an hour. In four-fifths the noose was located above the larynx, and one-fifth below this.

The post-mortem changes produced are: presence of a brush-burn, ecchymosis, tearing through of thyroid or cricoids, and sometimes fracture of the intervertebral discs and odontoid process. The vessels of the brain are usually congested, and frequently there is an extravasation of blood. It has been found in some cases, in which a person has been hanged and resuscitated, that he suffers from aphonia, and also aphasia. The lungs are usually congested or edematous, and there is an increase of pleural and pericardial effusion. Involuntary action of the bladder and rectum usually occurs. The majority of legal hangings caused a painless death.

DR. SOLOMON SOLIS COHEN, the retiring president, delivered an address on "Progress in Therapeutics."

Experimental Treatment of Tuberculosis.—Richet has announced (Paris Soc. de Biol.) that his experiences show that all medicinal substances arrest development of tuberculosis. Experiments with sodium chlorid, sodium urate, turpentin, iodin, etc., showed that animals thus treated always survived longer than the untreated, suggesting that the development of the tuberculous toxins is checked by the presence of any medicinal substance in the body.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.
61 MARKET STREET, - CHICAGO.

SATURDAY, APRIL 21, 1900.

RELATION OF CHRONIC MYOCARDITIS TO SCLEROSIS OF CORONARY ARTERIES AND AORTA.

The causes and the genesis of interstitial, non-suppurative myocarditis have been the subject of much discussion and investigation during recent years. The relations of myocardial scars to coronary sclerosis; of more acute, necrotic myocardial foci to occlusion of the coronary arteries; the rôle of syphilis, of rheumatism, and of the acute infectious diseases in the development of myocarditis; and the influence of passive congestion in interstitial changes in the heart muscle have all been considered from various points of view. In order to throw new light on the relations of these so important changes in the heart wall to chronic changes in the coronary arteries, Fujinami[1] undertook a study of a series of hearts. His investigations were carried out under v. Recklinhausen, in the pathologic institute at Strassburg, and it is the purpose of the following lines to give a comprehensive summary of the results obtained and the conclusions reached.

Fujinami studied carefully the gross appearances of the coronary arteries, of the beginning of the aorta whence these vessels take their origin, and of the coronary veins. The anatomic relationship of myocarditic foci to diseased coronary branches was carefully investigated microscopically. In all 52 cases were examined, the majority being plain instances of chronic, fibrous myocarditis, cases of syphilis and other infectious diseases being excluded as far as possible. Many cases were met with in which the changes were first recognized under the microscope. As a rule the changes were observed to be especially well marked either in the lower half of the anterior wall of the left ventricle or in the upper half of the posterior wall of the same part of the heart. Changes were also frequently found in the interventricular septum and in the papillary muscles. The cases are divided into three categories: 1. Advanced fibrous myocarditis; 2, microscopically demonstrable fibrous myocarditis; 3, acute, local, parenchymatous changes.

In the larger percentage of those of advanced fibrous changes there was a marked coronary arteriosclerosis; in a few there were marked sclerotic changes in the beginning of the aorta and but slight ones in the coronaries. It is noteworthy that in no case were there found marked sclerotic changes in both these places at the same time. In the majority the resulting narrowing of the coronary arteries did not correspond accurately to the fibrous areas. And yet the sclerosis of the coronary arteries was usually so diffusely developed that the nutrition of the heart's muscle surely suffered on that account. In the cases in which the beginning of the aorta was markedly affected there were such slight changes in the coronaries that the aortic disease is regarded as largely responsible for the myocardial changes. In no case in this group were there found abnormal contents—thrombi or emboli—in the coronary arteries. Naturally, negative findings have no absolute value in such processes as those now considered, because the changes were advanced to the extent that fibrous tissue had developed, but the fact remains that nothing was discovered directly favoring the claim that the myocarditis was the result of infection.

Sclerosis of the beginning of the aorta and of the coronary arteries appeared to play the same rôle in the group in which the changes were microscopic as in the group of coarser lesions. In general, the arteriosclerosis was less marked in the hearts with microscopic changes. In many cases the muscle fibers appeared to be quite intact, though often thinned between, and in the older and younger foci of connective-tissue proliferation. Instances were observed also of distinctly primary muscular degeneration followed by secondary fibrosis. In the smallest of such foci but one or two muscle fibers were involved for a short distance. The degenerated muscle eventually either disappears wholly or becomes calcified. Fujinami believes that in such cases some kind of poison produces the muscle degeneration, either directly or indirectly. Constant and direct relationship between the fibrous foci and the foci of coronary sclerosis could not be demonstrated in this group.

But in the third group, that of local parenchymatous changes, the influence of the vascular disease was found to be more directly demonstrable than in either of the preceding. In all cases the focus of degeneration or necrosis corresponded accurately to the narrowed vessel, no matter whether the narrowing or occlusion was caused by thickening of the wall, by thrombosis or by embolism. This observation tallies closely with the current teachings in regard to myomalacia cordis and with the results obtained by Baumgarten.[2]

Several cases of partial aneurysm of the heart occurred in Fujinami's series and in all these there was advanced sclerosis of the coronary vessels, the areas of greatest involvement corresponding to the location of the aneurysm. From the observations on these cases it seems correct to conclude that the heart wall suffered in nutrition and consequently lost its resistance to the blood-pressure on account of sclerotic narrowing of the arteries. This relationship is brought out very clearly by a thorough study of a heart the seat of no less than three aneurysmal dilatations of varying ages and stages in development.

Fujinami's material includes also three cases of rupture of the heart. In two there was hardly any doubt as to the relationship between the coronary disease and the ruptures.

Myocardial segmentation was frequently observed in

[1] Virchow's Archiv, 1900, 159, 447.

[2] THE JOURNAL, Oct. 7, 1899, p. 919.

this series. It was absent in only a small number of cases. The dissociated muscle fibers were always situated a distance from the fibrous areas. The fibers within the scars were not fragmented, but more or less pressed apart and atrophic. Fujinami has seen, however, some microscopic appearances in the fibers similar to the sarcolytic degeneration described recently by McCallum,[3] an interesting process that probably plays a greater rôle in fibrous myocarditis than now generally recognized.

The frequency of myocardial segmentation in fibrous myocarditis has already been established by Hektoen[4] and by Streickeisen.[5] The first-named author found that in 59 cases with hypertrophy of the heart and more or less chronic fibrous changes, dissociation of the myocardium was present in about 75 per cent.

The following facts stand out pre-eminently as the result of and in connection with Fujinami's work: 1. Circumscribed areas of parenchymatous myocardial changes correspond closely with arterial narrowing and occlusion. 2. Fibrous myocarditis and arteriosclerosis of the coronary arteries and the root of the aorta constitute a very common combination. 3. In the majority of the cases the myocardial scars do not correspond exactly in location to the arterial narrowing. 4. Narrowing of a coronary branch may cause fibrous changes indirectly by so interfering with the nourishment of myocardial areas that muscular disintegration and secondary fibrous changes take place. The vascular changes may be situated in the larger coronary branches, at the origin of the coronary arteries, or in the beginning of the aorta. 5. Primary, interstitial, non-suppurative myocarditis undoubtedly occurs. Fibrous myocarditis consequently represents the final stage of various processes. It follows that in many cases arterial thickening may be secondary to myocardial fibrosis, just as is often the case in indurative processes in other organs. 6. The frequency of segmentation of the myocardium in coronary sclerosis and fibrous myocarditis suggests that this combination is not merely accidental, but space does not permit further discussion of this highly interesting question at this time.

[3] Jour. of Exp. Med., 1899, iv
[4] Am. Jour. of Med. Sci., November, 1897.
[5] Ziegler's Beiträge, 1899, xxvi.

AUTOINTOXICATION.

The humoral pathology of an earlier day has been replaced by the current doctrine of intoxication. Instead of humors arising within, or introduced into, the body in various mysterious ways we have become cognizant, in more or less intimate degree of toxic processes due to poisons derived from without, such as alcohol, lead, mercury, decomposed food, or generated within, as a result of infectious diseases, or in consequence of deranged metabolism, as uremia, gout, diabetes. The evidence in this connection, however, is, it must be admitted, circumstantial rather than direct, and some of its deficiencies are pointed out in a thoughtful critique by Ewald.[1] He defines autointoxication as the poisoning of the body by normal or abnormal digestive or metabolic products. It is conceivable that these may be generated within the digestive tract, or within the tissues themselves.

Gastrointestinal autointoxication may result from the absorption of products normal to the digestive process, but generated in excess, or from that of wholly abnormal substances. Interstitial autointoxication may result from the retention of excrementitious products of cellular and metabolic activity. The liver stands as a guard to intercept or to neutralize toxic substances brought to it especially by the portal blood, but if it be deficient in activity or if the poisons brought to it be excessive in amount autointoxication may result.

When the toxic substances, whatever their source, have entered the general circulation, their effects may possibly be neutralized by the development of antitoxins, or they may be quickly eliminated by the emunctories. Under the last-named conditions the urine, the sweat and the expired air might be expected to exhibit poisonous properties, although the demonstration would be surrounded by numerous difficulties.

A number of acute and chronic digestive disturbances are attended with symptoms of irritation or depression of the nervous system, such as headache, irritability, fatigue, disinclination to activity, hypochondriasis, vertigo and stupor, which have been attributed to the absorption of toxic substances from the gastrointestinal tract. Various cutaneous affections, such as urticaria, acne, pruritus, purpura, as well as dyspeptic asthma, periodic vomiting, tetany, cystinuria, the anemia and the toxic symptoms attending helminthiasis, pernicious anemia, and chlorosis have been considered results of the same cause.

Interstitial autointoxication includes uremic, diabetic and carcinomatous coma, exophthalmic goiter, Addison's disease, pancreatic diabetes, myxedema, cachexia strumipriva, cretinism, leukemia, pseudoleukemia, eclampsia and some psychoses. With regard to certain other conditions, such as migraine, some forms of neuritis, hemorrhagic purpura, polymyositis and gout, there has been doubt as to whether they should be attributed to intestinal or to interstitial autointoxication. With equal propriety acetonuria, oxaluria, diabetes, icterus gravis, and acute yellow atrophy of the liver could be considered autointoxications. Some of the foregoing conditions, however, attend various diseases, while others do not throughout their course present the clinical picture of intoxication, but only at times, though these were better described as autointoxications in the course of the diseases named.

Two of the most conspicuous examples of autointoxication consist in poisoning with carbon dioxid, from interference with the respiration, and the symptoms resulting from suppression of transpiration from the skin, as after severe burns, the application of varnish, universal

[1] Berliner Klin. Woch., February 12 and 19.

psoriasis and ichthyosis. In both of these conditions the interference with gaseous interchange is sufficient to explain the toxic manifestations. The evidence is, however, not so convincing as to the various other modes of autointoxication, in spite of the elaborate chemical and physiologic examinations of the urine, and studies of the blood, the sweat and contents of the gastrointestinal tract. It would, thus, appear that although clinical experience supports the hypothesis of autointoxication in connection with a number of morbid conditions, the unequivocal demonstration of the process has not been made on any considerable scale.

CHRONIC GLANDERS.

Roman von Baracz reviews the subject of chronic glanders in man on the basis of a remarkable instance of this infection as the test. The disease developed rather acutely, and so soon after the extraction of a tooth by a shoemaker that this little operation apparently had something to do with the infection, especially as there was no opportunity known whereby it might have resulted from contact with affected horses or with human cases. The instance is truly remarkable on account of the duration—fifteen years, during which the disease remained wholly latent for five years at one time. At first the process was confined to the face and the neck. After being latent for five years it broke out again with increased severity in the nose; soon characteristic foci appeared on the face and the neck, the submaxillary and cervical lymph glands being also involved—an unusual thing in chronic glanders, in which lymphatic involvement rarely occurs. Toward the end of life foci appeared on the trunk and extremities, accompanied by an irregularly intermittent fever. Death occurred in spite of repeated operations; internal remedies had no effect on the course of the disease. The diagnosis was fully controlled by bacteriologic examinations and experimental inoculations. At no time could glanders bacilli be discovered in the urine or in the blood in which they have been demonstrated in acute glanders. There was no atrophy.

Usually chronic glanders ends in recovery after a period of 1 to 6 years. In the case reported by Bayard Holmes,[1] which followed an infection of the index finger of a young man who at the time was caring for horses suffering from glanders, recurring explosive eruptions of foci occurred in various parts of the body; in all, fourteen distinct points of infection developed, perfect healing resulting after twenty different operations in two years. In v. Baracz's case there was also a tendency to recurring crops of lesions, especially in the spring and autumn.

Von Baracz also mentions the details of two fatal cases of glanders in two Polish physicians, that gave rise to much discussion in Polish medical circles. The first case was one of rather chronic course—eight months—the source of the infection being not clear. The second physician operated on the knee of the first and wounded a finger; an acute glanders, associated with a mixed pyogenic infection, developed and ended fatally.

Fortunately glanders in man is a rare disease. As is apparent, the ravages of this infection may be severe and extensive. The two or three diseases with which glanders is likely to be confounded when it does develop in man, are syphilis, tuberculosis and actinomycosis; in the acute form, septicopyemia especially has to be also considered. The decisive diagnosis of glanders rests on the bacteriologic demonstration of the bacilli and on experimental inoculation of animals, especially the guinea-pig, in which the development of orchitis after intraperitoneal injection with glanders bacilli constitutes a valuable diagnostic feature.

[1] THE JOURNAL, 1893, xxi, p. 235.

RELATIONS OF PHARMACY TO THE MEDICAL PROFESSION.

Realizing the confusion that exists relative to the ethical status of the various medicinal preparations, especially with reference to their use by the medical profession and their appearance in the advertising pages of THE JOURNAL, and being also impressed with the desirability, if not necessity, of subjecting the entire question to a careful scrutiny in order to reach an intelligent conclusion as to what articles are not in accord with the ethics of medicine and pharmacy, THE JOURNAL this week begins a series of papers on the relations of pharmacy and medicine. It is proposed to make a careful survey of the entire field, and to present the various phases of the many interests involved, including those of the advertiser and the readers of THE JOURNAL. What medicinal preparations shall be admitted to, and what debarred from, the advertising pages of a scientific medical journal is a vexed question, but the ever-increasing number of preparations—many of which are secret nostrums—that are being foisted on the profession, makes it expedient that an answer be found if it is possible to find one. That the question is one full of interest to many is manifest by the large number of personal communications we have received on the subject since the appearance in THE JOURNAL, three weeks ago, of the editorial, "What Shall We Class as Ethical Preparations."

TREATMENT BY MUSIC.

It is said that certain prominent physicians in the East are organizing a movement to secure treatment by music in hospitals. This seems to us a refinement which we have not yet, as a race, fully reached. Music undoubtedly has certain effects on the nervous system, but so does any other kind of monotonous or rhythmic noise. Insomnia, for example, can be relieved by cannonading, if the subject is used to that method, and equally unmusical though less intense sounds are naturally still more effective. How far more elaborate sound combinations can produce a therapeutic effect, except through the action of the mind by suggestion, seems to us doubtful. The mental action may be considerable, particularly in those who have a natural or cultivated musical

taste, but any physical theory of therapeutic musical vibrations affecting the system in various morbid conditions is a little finely drawn at the present time. At least it has not been worked out and the laws developed, so whatever is done will have to be, at this time, altogether empirical. Music is a method of sensual gratification and its effects vary largely according to the education as well as the original sensory gifts of the individual. It has long been used as an adjunct to treatment of the insane, but only as a diversion; no special therapeutic value has been accepted as a result of general experience with its use. It may at times soothe, or it may excite, but that is apparently the limit of any effects that can be called remedial.

"CHRISTIAN SCIENCE" ABSURDITIES.

Those who have read Mr. Purrington's book, "Christian Science, an Exposition," noticed in this week's JOURNAL, will remember that he addressed to Mr. Carol Norton, representing the "Christian Scientists," certain questions. These the latter preferred to "shelve" at the time—they referred to Mrs. Eddy's inconsistency in claiming that her cult "removed the possibility of human and personal contention," and then resorting to the courts, and to what she or Mr. Norton would do in certain contingencies, e. g., having their heads injured by a brickbat, sitting alongside a case of confluent smallpox, etc. These, Mr. Norton, in a recent communication to the *New York Sun*, calls "wholly irrelevant," and designed to make the whole subject—"Christian Science"—ridiculous. As to their irrelevancy, we are not metaphysically minded enough to see it, nor can we see that they were designed to ridicule "Christian Science." There was no design about it; the fact that they do make it ridiculous is only a sort of inevitable accident, like the effect of the law of gravitation, for example. In the same communication Mr. Norton refers to a list of persons "of professional standing, honesty, and unquestionable integrity" who will vouch for the details of certain "Christian Science" cures. The "professional standing" of one of these, Mr. Carol Norton, is undoubtedly high among the C. S. Ds., but he is hardly a satisfactory reference to those who are not fixed in the faith in "Mother" Eddy. The names of the three M.Ds. he refers to are not to be found in any physicians' directory in our possession—a curious coincidence. As to the others, the subjects of the alleged cures and a couple of unknown parties, anybody can put his own value on them. On the whole it is perhaps not so very remarkable that the confirmation offered by Mr. Norton "made little impression" on Mr. Purrington.

A NEW SYMPTOM OF CEREBELLAR DISEASE IN EARLY LIFE.

The recognition of disease-conditions in children is often rendered exceedingly difficult because the diagnosis must be based almost wholly on evidence of an objective character, and while this is sometimes more trustworthy than are purely subjective symptoms, it is by no means always satisfactorily elicited. The difficulty is often enhanced in the discrimination of disease of the nervous system, as children respond so readily with nervous manifestations to various forms of irritation, while on the other hand, from developmental and physical reasons, certain symptoms that are distinctive in the adult are wanting in the child. Thus cerebellar disease is attended especially with derangement of co-ordination, as exhibited in unsteadiness in standing and in walking, with vertigo and vomiting and often also with nystagmus; but co-ordination is naturally deficient in the young child and vomiting is common from other causes. An additional symptom of cerebellar disease in early life is described by Hahn.[1] This consists in constant rotation of the head from side to side. The patient whose case is reported was 4 months old and was brought by her tuberculous grandmother because of cough and vomiting for a month and rotatory movement of the head for two weeks. The neck was rigid and the head retracted. On percussion dulness was found at the upper part of the right chest anteriorly and, on auscultation, rough breathing. The liver was enlarged. The child was seized with a general convulsion while being prepared for lumbar puncture. The latter yielded 3 c.c. of clear fluid in which no tubercle bacilli could be found. On account of the disease in the grandmother, and the physical signs presented by the chest, a diagnosis of cerebral tubercle was made, and from the presence of the rotatory movement of the head the growth was localized in the cerebellum. Death resulting, a tubercle as large as a pea was found in the middle of the vermis, with circumscribed tuberculous meningitis at the base of the brain between the medulla and the cerebellum, in the form of a moderate number of submiliary nodules. It is pointed out that while rotatory movements of the head may not be rare in association with tuberculous meningitis, they have not been thoroughly described, nor do they seem to have been observed in connection with tubercle of the cerebellum, which is relatively common in children.

ARTIFICIAL PARTHENOGENESIS.

Some months ago the newspapers contained various sensational accounts of certain experiments by Prof. Jacques Loeb, of the University of Chicago, in regard to what they called his new theory of the reproduction of animals and of the origin of life. The investigator himself was quoted as saying to a reporter that by them "we have drawn a great step nearer to the chemical theory of life and may already see ahead of us the day when a scientist experimenting with chemicals in a test tube, may see them unite and form a substance which shall live and move and reproduce itself." Prof. A. B. Conklin,[2] of the University of Pennsylvania, reviews the subject and gently criticizes Loeb's rather premature conclusion that we have in his experiments an instance of "fertilization" by the ions of the magnesium chlorid solution in which he had temporarily placed the egg. It is in fact difficult to see how that experimenter, supposing that he had any knowledge of the facts of normal parthenogenesis, could have jumped to any such conclusion, unless it be that he was overanxious to find a chemical basis of vitality. The facts certainly do not justify him in this or in his other deductions that we can in this way, some time in the future, produce life from inorganic chemicals in a test-tube. The evidence that we

[1] Archiv. f. Kinderheilkunde, B. xxviii, H. 3 u. 4, p. 187.
[2] University Med. Mag., March.

will ever reach that point of biologic progress is as yet not forthcoming, and there are no facts that justify Professor Loeb or any one else in the assumption that we will. The most we can say is that, according to our present knowledge, the reproductive cells both of the ovum, and of the spermatozoon as shown by Delage, are capable of parthenogenetic development to a certain extent under specially favorable conditions, but that sexual reproduction is apparently one method by which Nature secures the needed variation and adaptation to external environment for the evolution and preservation of life. Artificial parthenogenesis, such as that described by Loeb, is not confined to the sea-urchins. Morgan has also produced it in Nemertians and Gephyreans; it shows perhaps a common, natural reversion tendency of many of the lower organisms. We do not know all the conditions under which this occurs; they are not likely to all be such simple chemical ones as those produced by Loeb in his experiments. The possibility he mentions of asexual generation in the higher forms of life has long been suggested by some well-known pathologic conditions which have lately more than ever begun to be accounted for in that way, but it is a long step from the teratoma to the fetus. The chemical fertilization of Loeb is a crude idea, apparently based on misconception of the facts, and every prognostication of the discovery of an ultimate chemical origin of life is pure assumption. When we have traced the earliest cell differentiation back to the earliest cell movements, and venture to inquire, as Conklin says, "into the cause of this cause we find ourselves in the position of those Indian cosmogonists, who having decided that the earth rests upon twelve oxen and that these stand upon a turtle, left the latter without any support."

SUCCESSFUL RESECTION OF THE INTESTINE FOR MULTIPLE TUBERCULOUS STENOSIS.[1]

In 1897 Lennander removed about 50 cm. of the ileum, with the corresponding mesenteric glands, for multiple tuberculous stenoses. The proximal end of the bowel was sewed together and the distal end inserted, by means of Murphy's button, just above the closed upper end. Recovery ensued, but the button failed to pass out; it could be felt just above the posterior right vaginal vault. Some months later a second operation was made for removal of the button, which was found in a blind diverticulum formed at the insertion of one end of the resected intestine into the other. The diverticulum and the button were removed. There was absolutely no tuberculosis in the abdominal cavity; nor were there any evidences of tuberculosis elsewhere, hence it may be concluded that there had been a primary tuberculosis of the ileum and its mesenteric glands. Krogius describes a somewhat similar case occurring in a woman of 33 years, who for three months had presented symptoms of intestinal stenosis. Two movable swellings and one fixed, the latter in the ileocecal region, could be felt. A diagnosis of intestinal tuberculosis was made. Laparotomy disclosed two enlargements of ileum which were removed by resection and circular suture; the third swelling involved the lower part of the ileum, the cecum, and the adjacent ascending colon; this portion was also resected, and the ends united by means of Murphy's button. Recovery ensued promptly. Two months later symptoms of disease of the gall-bladder appeared and, by cholecystotomy, 40 gall-stones were removed. The extirpated pieces of intestine showed a localized, hyperplastic form of tuberculosis with great narrowing of the intestinal lumen.

[1] Nord. Med. Arkiv, 1899, x.

TREATMENT OF TUBERCULOSIS WITH CINNAMIC ACID.

According to current conceptions on the subject of tuberculosis, any plan of treatment, to be successful, must be directed to the improvement of the general nutrition, to the stimulation of those forces, as yet unknown, capable of repelling the invasion and of resisting the activity of the tubercle bacillus, of neutralizing its effects and of repairing the injury it has accomplished. The mere presence of this bacillus does not constitute the disease, which rather represents the reaction between the micro-organism and the tissues that have become susceptible to its attack by reason of depraved nutrition or other expression of impaired immunity. Many remedies have been proposed for the treatment of tuberculosis, but none has a specific influence, if we except tuberculin, and this has proved itself a two-edged sword. Among the drugs that have been recommended in the treatment of tuberculosis and from which encouraging results have been reported is cinnamic acid. This remedy was first advocated for the purpose named, by Landerer, some eleven years ago, on the conception that it antagonizes the development of tuberculosis by causing reactive inflammation about the unvascularized tubercles. Subsequently its action was attributed to its chemotactic and leucocytotic properties, and finally it was considered a natural protective substance. Whatever the mode of action of cinnamic acid, it has been contended that it is capable of curing experimental tuberculosis in guinea-pigs, although it is admitted that from this it can not at once be concluded that a similar result will be brought about in man. A large number of observers have employed the remedy clinically, and have attributed great therapeutic activity to it. Fraenkel[1] has, however, subjected the published statistics to a critical analysis as an outcome of which he expresses the opinion that the results are really no better than those that follow other methods of treatment. Further, he reports the results obtained in the treatment of ten cases of pulmonary tuberculosis, two of laryngeal tuberculosis, and five of lupus by means of cinnamic acid, at the clinic of Professor Erb in Heidelberg. In all but two cases the medicament was injected into a vein of the forearm, beginning with a dose of 1 mg. and increasing by that amount every second day until a dose of 10 mg. was reached, then increasing 2.5 mg. but never exceeding 35 mg. The results, however, were not satisfactory; nor were those obtained in experimental observations on animals.

[1] Deutsches Archiv f. Klin. Med., B. lxv, H. 5 u. 6, p. 480.

ENTERIC FEVER among the Boer prisoners is causing anxiety among British officials at Cape Town and Simons Town, S. A. According to *The Lancet*, April 7, deaths at the latter point were occurring daily, and the outbreak was attributed to the "terribly insanitary conditions" under which they had been living and the hardships.

Medical News.

According to the press dispatches, Congressman Boutelle, of Maine, who has been in a sanatorium for several months, was renominated on the statement of his physician that such action might effect a cure, whereas failure to secure a renomination would probably kill him.

The Philadelphia County Medical Society intends to organize a bureau of information for the use of members of the American Medical Association who pass through Philadelphia en route to and from Atlantic City. The College of Physicians will also extend its courtesies to the members of the Association and has ordered that the library and museum be opened to them.

The Army Ration Increased.—Troops serving in the recently organized Department of Alaska have had their allowance of bacon, vegetables and sugar considerably increased, the increase being considered necessary on account of the severity of the climate. The change was made by the President, under the authority vested in him by Section 1146, Revised Statutes. Bacon is increased from 12 to 16 ounces; fresh vegetables from 1 pound to 1½ pounds, and sugar from 15 to 20 pounds per 100 rations. General Orders, No. 46, Headquarters of the Army, April 7, 1900, makes formal announcement of the increase.

Progress of the Plague.—According to the *British Medical Journal*, April 7, the disease seems to be practically in abeyance in Hongkong, and the latest reports show that during the week ending February 24 no fresh cases occurred and there was but one death. For the week ending March 29, in Mauritius, there were 6 new cases and 5 deaths. A correspondent writing from Sydney, N. S. W., February 27, reports another case there that week. The present plague epidemic in Bombay shows no signs of abeyance, and during the second week of March it caused 736 deaths. In Calcutta, from March 8 to 14, the daily reports of new cases were, respectively, 89, 129, 118, 111, 100, 127, and 116. The deaths from the same causes were 78, 105, 110, 99, 91, 107, and 93, on these dates. On March 15, 16, and 17 fully 6000 natives left the city on one railway line alone. The greatest mortality prevails in Bengal province outside the city, Patna accounting for 1581 deaths for the week ending March 17.

ILLINOIS.

ROCK ISLAND HOSPITAL.

Plans are being prepared for the New Rock Island Hospital. Twenty-five thousand dollars has been subscribed and a location in the central portion of the city has been offered. At the annual meeting of the Rockford Hospital Association the announcement was made of the gift of $1000 from Mr. Wm. Halley of Owen. This amount will be added to the permanent fund of the hospital.

REGULATION OF MEDICAL PRACTICE.

The secretary of the Illinois State Medical Society has sent out a circular letter to the members of the profession in Illinois as follows:

Dear Doctor: You have received a notice through the columns of the state society's journal to be present at a meeting of officers of the various local societies of the state at Springfield, a day in advance of the state society's meeting.

The activity of those opposed to a proper regulation of medical practice makes it more imperative than ever that the better elements of the profession bestir themselves. What is needed is more thorough organization, without which all attempts at successful medical legislation must fall short of the demands of the profession.

The time allotted to the business sessions of the state society is too limited to give this subject the consideration its importance demands, hence it is deemed advisable to have this preliminary meeting, when the subject can be fully discussed and, as a result, some well-digested plan submitted to the regular session of the society. A large and representative gathering of local society members is necessary if the object sought is to be attained.

Please notify me of your acceptance of this invitation. Remember the date, May 14, 1:30 p.m., in the Christian Church, Springfield, Ill. Yours fraternally,

J. W. Pettit, M.D.,
Chairman Committee on Medical Legislation.

Chicago.

Dr. G. Frank Lydston has returned from a month's outing in California.

Dr. Otto W. Lewke is suffering from blood poisoning as the result of an accidental wound received while operating.

A meeting of the Illinois State Board of Health was held here April 10-13, for the examination of candidates for license to practice medicine in the state.

At the annual meeting of the Ladies' Aid Society of the Presbyterian Hospital, a plan for building a maternity was discussed. The sum of $40,000 was conditionally promised for this purpose. When completed the Hospital will cost $100,000.

The medical inspectors of schools made 4138 examinations during the past week; 251 pupils were excluded from school. The inspectors will be withdrawn in a few days, a few being retained for emergency duty. Service will be resumed with the opening of schools in September.

COLLEGE OF PHYSICIANS AND SURGEONS.

The eighteenth annual commencement of this college, the medical department of the University of Illinois, was held April 18. The graduating class numbered 136. The doctorate address was delivered by Dr. Victor C. Vaughan, dean of the school of medicine of the University of Michigan. The ad eundem degree was conferred on Dr. George F. Butler, and honorary degrees on Dr. V. C. Vaughan, Ann Arbor, Mich., and Drs. Wm. E. Quine and J. B. Murphy, of Chicago.

EXAMINATION FOR EXTERNES.

A competitive examination for three positions as externe, beginning May 1, 1900, wil be held at the Michael Reese Hospital April 26, 27 and 28, at 2 and 7 p.m. The examination will be both written and oral, on internal medicine and physiology, surgery and anatomy, gynecology, obstetrics, children's and skin diseases. Applicants must present their class gradings of the past three years, and certificates of good moral character, on or before April 22, to the Board of Directors of the Michael Reese Hospital. The term of externeship is for eight months. Satisfactory service during the externeship entitles the candidate to an appointment as interne for one year, beginning Sept. 1, 1900, January 1, 1901, and May 1, 1901.

NEW YORK.

At its annual meeting, the State Board of Charities unanimously elected William Rinelander Stewart, New York City, president, for the eighth consecutive term, and Enoch V. Stoddard, Rochester, vice-president, for the sixth consecutive term.

By the will of the late James D. Sarven, of Tarrytown, Harriet L. Burgess, a nurse in the Tarrytown Hospital, is bequeathed 200 shares of railroad stock for her constant attendance on the deceased and for her help in keeping his books.

CONCERNING THE INSANE.

A bill, just signed by Governor Roosevelt, amends the insanity law in such a way as to make a number of changes in the powers and duties of the State Lunacy Commission. That body is permitted to endeavor to secure legislation from Congress looking toward the more effectual removal of alien and non-resident insane, and is allowed to expend a reasonable sum therefor. The law provides that the Commission, or a majority of its members, shall visit every state hospital at least twice a year. With the approval of the Commission officers or employees of the state hospitals may live outside of such institutions, their salaries being commuted accordingly. All goods for these hospitals must be bought, as far as practicable, from the manu-

facturers or their immediate agents, and contracts must be let to the lowest responsible bidders.

New York City.

YELLOW FEVER IN PORT.

Two yellow fever ships have come to the quarantine station of this port within the past few days. On the first there had been one fatal case, a few days after leaving Manaos, but as more than five days had elapsed since that occurrence, the ship was disinfected and allowed to come into port at once. The master of the other ship had died of yellow fever at Rio Janeiro, and on the voyage here the chief officer had been attacked, but had recovered.

SUPPOSED RABIES

An employee of the park department died last week at the St. Vincent's Hospital, apparently from rabies. He had been bitten on the right cheek by a strange dog, on March 9, and, after the wound had received surgical treatment for a few days at the hospital, he was pronounced cured. On April 10 he became ill, and was taken to the Pasteur Institute, where his case was considered hopeless. As the dog had been shot almost immediately after the man had received the bite, there was no positive proof that the disease was really rabies.

AN INCUBATOR INFANT'S EXPERIENCE.

An unusual feature of a recent fire in a Harlem apartment house was the rescue of a premature infant which was being reared in an incubator. A hurried attempt to drag out the incubator proved a failure, because the latter was too large to be easily brought through the doorway into the elevator. The nurses hesitated to take the tender morsel of humanity out of its box, but a physician who happened to live near by finally decided to do this, and the child was wrapped up in a blanket and carried through the smoke. The mother meanwhile implored the firemen to save the incubator, for this, to her mind, meant the saving of the life of her infant. After the fire had been partially controlled, two men succeded in saving the incubator. The little one was apparently none the worse for this latest addition to its short but checkered experience.

PRACTICE BY MIDWIVES.

The recent legislature passed a bill requiring licensing of midwives in this city, and providing that no person should practice midwifery without having passed a satisfactory examination before a board of five physicians appointed for the purpose by the health department. The bill was given a hearing by the mayor, on the 13th. The Midwives' Association, about fifty members being present, requested that it should be disapproved because one of its sections requires that midwives who have already been in practice must undergo the examination as well as new applicants for license. Under the present laws the Board of Health is compelled to issue a license to any person who holds a diploma from an incorporated college, and it is well known that such diplomas can be purchased by those who have no training. The Gerry Society is heartily in favor of the bill, on account of the large number of children who are rendered blind through the criminal carelessness and ignorance of midwives.

HOSPITAL APPOINTMENTS.

As a result of the resignation and retirement of Dr. Charles McBurney from the position of chief surgeon of the Roosevelt Hospital, previously noted in these columns, some important changes will take place in the personnel of the surgical staff of that and the New York Hospital. Dr. Robert F. Weir and Dr. William T. Bull have been appointed to succeed Dr. McBurney, and this will cause two vacancies on the surgical staff of the New York Hospital. They assume charge at Roosevelt Hospital on April 16. These new appointments will be an advantage to the College of Physicians and Surgeons, because the students will now only have to go across the street to attend the surgical clinics instead, as heretofore, of going to a distant portion of the city.

HOSPITAL FUNDS.

The treasurer of the Hospital Saturday and Sunday Association reports that the collection for 1899-1900 amounts to more than $74,000, or nearly $4000 in excess of the sum collected last year. Of this amount, over $9000 was collected by the Woman's Auxiliary. About $13,000 was specially designated to various hospitals by individual donors, and $3000 was reserved for future expenses, leaving $58,000 to be distributed to the various hospitals on the basis of free work performed. The Montefiore Home and St. Luke's Hospital received the largest amounts, $5800 and $5161.67, respectively; six other hospitals, sums ranging from $2057 to $4915.59; ten others, amounts varying from $1000 to $2000, and nineteen, sums ranging from $250 to $964.

PENNSYLVANIA.

AT A special meeting of freeholders, in Mount Holly, April 10, it was decided to recommend the erection of an insane asylum on the county farm at New Lisbon.

BY THE will of the late Jacob Justice, $60,000 has been devised for the establishment of a nonsectarian dispensary for the treatment of the poor and distressed, at Mount Pleasant.

SALE OF OLEOMARGARIN.

At the Governor's request, a report has been filed by Secretary of Agriculture Hamilton in regard to the enforcement of the law in regard to the sale of oleomargarin in this state. Of 402 samples recently analyzed, 75 per cent. were pure butter, 27 renovated butter, and 300 oleomargarin. During the past year 256 prosecutions were brought for selling oleomargarin, of which 76 were dismissed by magistrates or grand juries, and 80 are still pending. Of 120 suits brought, 70 were in Philadelphia. The provision in regard to the color law has been contested in Pittsburg and Philadelphia. Since January 1, 1417 licenses have been granted for the sale of oleomargarin.

Philadelphia.

THE H. C. WOOD Medical Society held its annual reception on April 7.

BY BEQUEST of Matilda Kaufman, $1000 has been given the Jewish Hospital.

DR. SAMUEL WOLFE has resigned from the medical staff of the Philadelphia Hospital.

DR. ALBERT E. ROUSSEL, of the Medico-Chirurgical College, has been appointed consulting physician to the Hayes Mechanics Home.

THE TWO concerts for the relief of families of American soldiers and sailors now in the Philippines, realized $13,000.

DR. E. B. MONGEL, of the Samaritan Hospital, who has for some time been confined to his bed with diphtheria, has resumed his duties.

THE PENNSYLVANIA Hospital has purchased certain property opposite the hospital grounds, on which to build a home for nurses.

A MAN and his son of 5 years were recently admitted to the Pennsylvania Hospital, suffering from ptomain poisoning from bean soup which had been preserved in tin cans.

DR. GEORGE M. BRADFIELD, surgeon of the Seventh U. S. Infantry, stationed at Fort Ontario, N. Y., has been spending a few days in this city. He was in charge of the medical staff during the outbreak of yellow fever at Savannah in 1899.

THE NET proceeds of the Hebrew charity ball, held February 20, amounted to $19,656. 56. The funds have been distributed as follows: Jewish Hospital Association, $5417.65; United Hebrew Charities, $230.83; Jewish Foster Home and Orphan Asylum, $5044.02; Orphans' Guardians, $1307.71; besides some to various other charitable organizations.

THE DEATHS during the past week numbered 691, a decrease of 41 over last week, and an increase of 171 over the corresponding period of last year. The causes were: nephritis, 34; cancer, 11; tuberculosis, 53; diabetes, 1; heart disease, 49; influenza, 46; appendicitis, 2; rheumatism, 3; septicemia, 6; suicide, 1.

MARYLAND.

THE NEW group of buildings at Springfield Insane Asylum (Sykesville, Md.) is about completed and will be ready to be turned over to the Board of Managers this week.

MEDICAL LEGISLATION.

The governor has vetoed the bill passed by the legislature "To amend the health laws subtitled 'Local Boards of Balti-

more County.'" The following acts of the legislature have also become laws by the approval of the governor. One to relieve Frederick City Hospital Association; one to establish a commission of state aid and charities; one to amend the lunacy law relative to the commitment of insane paupers; the Western Maryland Hospital, Cumberland, receives an appropriation of $5000 for building, etc., and $3000 annually for two years for maintenance. Of the former amount, $4000 will be spent in the erection of an operating-room, and $1000 on interest on the hospital debt.

Baltimore.

A COLORED man was found ill with the smallpox, in the eastern part of the city, on the 11th. He was sent to the quarantine hospital, where there are two cases from Sparrow's Point.

DRS. W. W. RUSSELL and Thomas S. Cullen, heretofore connected with the department of gynecology in the Johns Hopkins University, have been appointed associate professors.

REV. AUGUST POHLMANN, M.D., who has been a medical missionary in Liberia, Africa, for the last two years, representing the English Lutheran Church, has arrived here, in poor health.

THE ANNUAL commencement of the Baltimore University School of Medicine was held at Ford's Opera House, April 11. Prof. E. Miller Reid, M.D., of the faculty, delivered the oration. There were 49 graduates, one a Maryland woman, formerly a pupil at the Woman's Medical College. A banquet followed.

AT THE meeting of the Johns Hopkins Historical Club on the 9th inst., "John Locke's Notes on a Case of Tic Douloureux" in the English ambassador's wife in Paris, were read and commented on by Dr. Harvey W. Cushing. Dr. Wm. H. Welch delivered the first of two lectures on the "History of the Doctrines of Fever."

FIFTY-NINE of the seventy students of the senior class of the Baltimore Medical College have passed satisfactory examinations and will receive their diplomas at the approaching commencement. J. K. B. E. Seegar, of Maryland, received the gold medal, the surgical and gynecologic prizes, and will also be awarded the degree *magna cum laude*.

OBSERVATIONS ON PNEUMONIA.

An interesting "symposium" was held by Dr. Wm. Osler, at his public weekly clinic on the 11th. To four of the third-year class he assigned the duty of preparing papers on the etiology, pathology, symptomatology and treatment of pneumonia, respectively. The reading of these occupied the entire hour. They were based on the cases of pneumonia which have been in the hospital since Oct. 1, 1899. A tabulated record of these cases, fifty-eight in number, was exhibited on blackboards, also colored chalk drawings of pathologic conditions.

The following points of interest in connection with the series may be mentioned: Of the 58 cases, 6 should be omitted, 3 being children with bronchopneumonia, and 3 being tuberculous. Of the 52 remaining, 19 died. Marked delirium occurred in about one-fourth. The blacks were to whites as 3 to 2, although the entire admissions show a proportion of 1 to 7. The right lung was affected about twice as often as the left, and about one-third oftener than both lungs together. The maximum leucocytosis varied from 6875 to 71000, the ages from 18 to 70-odd years; 4 or 5 were bled; in 4 serum was employed, but without marked effect, 1 of the 4 died. There has been much employment at this hospital of injection of saline infusions, and oxygen inhalations, but all treatment has been ineffectual, and the mortality during the season has been very high. Dr. Osler remarked that pneumonia was the most fatal of all acute diseases. He added that fibroid induration was a rare sequel, not an instance having occurred in the hospital. The longest instance of delayed resolution he had known was thirteen weeks. Interesting in the tables is the vexed question of the relative severity of upper lobe and lower lobe pneumonias. In 9 a single upper lobe was involved (7 right, 2 left); in 15 a single lower lobe. The mortality of the former was 2, of the latter 4. A comparison of the two series does not show any marked difference as to symptoms and prognosis.

LONG LITIGATION ENDED.

The Supreme Court of the United States has disposed of the long-continued litigation between the nieces and nephews of the late Enoch Pratt, of Baltimore, and the Trustees of the Sheppard Asylum. After the decision of the Maryland Court of Appeals, the plaintiffs sued out a writ of error and the case went on the docket of the Supreme Court, where it would not be reached for two years. The counsel for the trustees, some weeks ago, filed a motion to dismiss the writ, on the ground that there was no Federal question involved and no impairment of contract between the state and "Trustees of the Sheppard Asylum," the corporation to which Moses Sheppard bequeathed the legacy for the asylum, and that if there were any such impairment of contract, the Pratt relations were not parties nor privies to the contract, and had no standing in the Supreme Court in the matter. The Supreme Court adopted this view and dismissed the writ. The decision of the Court of Appeals therefore stands unchallenged, and the large bequest of Enoch Pratt is available for the increased work of the institution, under the conditions set by him, one of which was that his name should be added to its title. The additions to the hospital, designed by Mr. Pratt, will be at once undertaken.

OHIO.

THE TRUSTEES of the Massillon State Hospital have decided to begin the erection of the new assembly hall immediately. It will cost $50,000, the entire amount of the construction fund allowed by the legislature.

THE SEMI-ANNUAL report of the directors of the Toledo Infirmary states that during the past six months 23 inmates have died and 122 have been discharged. The number of inmates on March 1 was 317.

Cincinnati.

DR. CLARK DAVIS has been appointed health officer.

DR. SANFORD MCCLURE, lately interne to the Cincinnati Hospital, has been appointed an assistant surgeon, U. S. A., with the rank of lieutenant. He is ordered to the Philippines.

APPOINTMENTS.

After eighteen months' service in the City Hospital, Drs. H. W. Hines, A. H. Smith, N. P. Graham, and C. H. Beeson were relieved of duty April 10, their terms having expired. Their places were filled by Drs. Hawes, Brankamp, Iliff and Ayres. Drs. Pritchard, Stix, Berry and Taylor, the successful candidates of a month ago, will enter hospital service at the same time.

INDIANA.

DR. W. R. FRANCIS, Marion, has been appointed a member of the Grant County Pension Board.

THE ANNUAL commencement of the Fort Wayne Medical College was held March 27. Five students were graduated.

Indianapolis.

DR. W. G. RICE has been appointed government pension examiner for the Eighth Congressional District.

THIRTY-FOUR degrees were conferred at the annual graduating exercises of the Medical College of Indiana, held April 8.

THE ANNUAL commencement of the Central College of Physicians and Surgeons was held April 7, with a graduating class of seventeen.

A MEETING of the City Board of Health was held April 7, to consider the crowded condition of the city hospital. A separate building for nurses, to cost $5000, and a $25,000 addition to the hospital were urged. Action on the matter was deferred.

INDIANA MEDICAL COLLEGE.

Contracts have been closed by the Indiana Medical College, with St. Vincent's Hospital and the Protestant Deaconess' Hospital for wards to be used during the next college year, for bedside instruction of the senior class. The hospitals are to furnish beds, food and nurses, while the treatment will be in the hands of the medical college.

KENTUCKY.

APPOINTMENTS.

The following appointments have been made by the "Governor": Dr. L. L. Robertson, Middleboro, as a member of the State Board of Health, vice Dr. Dickenson, whose term had expired; Senator J. G. Furnish, M.D., an ardent supporter of the late William Goebel, as Superintendent of the Lakeland

Asylum, and Dr. J. W. Hill of Bardstown as first assistant physician. Dr. M. M. Lively, the appointee of Governor Taylor, refuses to give up the position of superintendent until after the supreme court has acted on the question of who is governor of Kentucky. An agreement has been reached between the two appointees to await this decision.

Louisville.

AT THE reunion of the class of 1894, of the medical department of the University of Louisville, held recently, Dr. J. C. Pannenborg, of Hammond, Ind., was elected president, instead of Dr. Vernon Robbins, as previously noted in these columns.

NORTON INFIRMARY.

There is to be a new wing to the present building, doubling the capacity of the institution, at a cost of $50,000. One of the objects of erecting this is to make the Infirmary self-sustaining by the increased capacity. It is under the management of the Episcopal Church, but is entirely nonsectarian in its work.

MEDICINE VENDORS.

The Kentucky Board of Pharmacy, at its last meeting in this city, decided to wage war against the patent medicine fakirs and street vendors of medicine who are not recognized by the Board. Already many convictions in various parts of the state have been secured for violation of the state law. The report of the secretary shows there are about 2000 registered druggists in the state.

KANSAS.

A NEW HOSPITAL is in course of construction at Winfield.

PLANS AND specifications for the Gage annex to Stormont Hospital, Topeka, have been completed. Mrs. Gage has set aside $10,000 for the building and equipment of the new structure, which will double the capacity of the hospital.

HEALTH BOARD FUND.

The fourteenth annual report of the State Board of Health has just been issued. It gives special attention to contagious diseases, and the secretary calls the attention of the Governor and legislature to the fact that while the Board is required by law to establish quarantine against contagious diseases, no emergency fund has been set aside for the fulfilling of these requirements. He urges that there should be such a fund at the disposal of the Board.

CALIFORNIA.

DR. W. D. ANDERSON, Vallejo, has been elected secretary of the Board of Health and ex-officio health officer of that city.

San Francisco.

SOME DIFFICULTY is being experienced by the San Francisco Board of Health in its efforts to cleanse Chinatown, several Chinamen having filed suit to restrain the Board from compelling them to move to more sanitary quarters.

THE REPORT of the Los Angeles Health Department for March shows a mortality of 171, which is equivalent to an annual death-rate of 19.92 per 1000 inhabitants. During the month 113 cases of contagious diseases were reported.

DR. R. W. HILL, Los Angeles, was elected president of the State Board of Health, April 7. A resolution was adopted by the Board calling on the State Board of Examiners to make renewed inquiries into the qualifications of the medical practitioners of the state and, on investigation and proof, to annul the license of all those not qualified to practice.

OREGON.

AT THE commencement of the Medical Department of the University of Oregon, Portland, a class numbering twelve was graduated.

TENNESSEE.

A MEETING of the State Board of Health was held in Nashville, April 3, and resolutions adopted on the death of Dr. Ernest B. Sangaree, bacteriologist of the Board. Rules were promulgated governing the transportation of bodies for anatomic purposes.

THE NUMBER of graduates at the recent commencement of the Medical Department of Vanderbilt University, Nashville, was 94 instead of the number given in last week's JOURNAL.

TEXAS.

THE COMMENCEMENT exercises of the medical department of Fort Worth University were held April 5. Degrees were conferred on twenty-four.

IOWA.

SIX STUDENTS were graduated from the Sioux City College of Medicine, April 4.

UTAH.

AT A MEETING of the State Board of Medical Examiners, April 4, it was decided that all applicants for license to practice obstetrics must have reached the age of 21 years.

ARKANSAS.

THE TWENTY-FIRST commencement of the Arkansas University's medical department, Little Rock, was held April 3. There were eight graduates.

SOUTH CAROLINA.

THE COMMENCEMENT exercises of the medical department of the State University of South Carolina, Charleston, were held April 8. Diplomas were awarded to forty-three.

MISSOURI.

St. Louis.

AT THE commencement of the Beaumont Hospital Medical College, March 30, fifty-four were graduated.

THE COMMENCEMENT exercises of Barnes Medical College were held April 12. There were 106 graduates.

ALABAMA.

A CLASS of fourteen was graduated from the Birmingham Medical College, April 2.

IT IS proposed to establish a hospital in Montgomery for the accommodation of pay and charity patients.

WISCONSIN.

THE ANNUAL report of the director of the Milwaukee Hospital shows that 663 patients were treated during the year.

THE SEVENTH annual commencement of the Wisconsin College of Physicians and Surgeons, Mliwaukee, was held April 3. There were ten graduates.

MINNESOTA.

INCREASED MEDICAL REQUIREMENTS.

At the annual meeting of the board of regents of the state university, in Minneapolis, April 5, it was decided to raise the standard of admission to the medical school. After 1902 those who wish to enter the school will be required to pass an examination equal to that now required from sophmores in the academic department, and the following year this will again be raised to equal those requirements now demanded of the junior class in the academic department.

CANADA.

DR. W. L. WATT, Winnipeg, has gone to Dublin to take a course at the Maternity Hospital.

DR. G. S. RYERSON, Canadian representative of the Red Cross in South Africa, writes that there are over eighty Canadians in the hospitals there, with enteric fever.

DR. SHIRRES, Montreal, is prosecuting studies in Baltimore, Md., on the pathologic and clinical conditions of the nervous system, under Drs. Barker and Berkeley of Johns Hopkins University.

THE MEDICAL department of Toronto University has sent broadcast, throughout the province, a circular letter to the profession, setting forth the objections to the proposed legislation as indicated in the bill of Dr. Mackay, referred to in previous issues of THE JOURNAL.

SURGEON-MAJOR D. A. CAMPBELL, of the 63rd Rifles, Nova Scotia, will retire with the rank of surgeon-colonel; and Sur-

geon-Captain A. W. Cogswell will be promoted to surgeon-major.

NOVA SCOTIA, at the session of the legislature just prorogued, passed an act prohibiting expectoration in all tram-cars. Local boards of health are empowered to prosecute in case of infringement of this ordinance.

DR. R. M. BUCKE, superintendent of the London (Ont.) Asylum for the Insane, in company with the chief engineer of the Public Works Department of Ontario, is visiting leading American hospitals for ideas in connection with the equipment of the infirmary about to be erected at the London asylum.

THE SECRETARY of the Victoria (B. C.) Medical Society writes that two of their number after signing the agreement to abstain from all lodge practice, previously discussed in these columns, have been expelled from the Society on account of contracting with the fraternal societies to do all this work in Victoria.

GENERAL SURGERY IN THE LONDON ASYLUM.

In last week's correspondence to THE JOURNAL, note was made of the gynecologic work prosecuted at this asylum, and it may prove interesting now to record that of a general character. During the last five years 51 operations have been performed, as follows: Bassini's, for radical cure of hernia, 31 times; operations for removal of cancer, 2; appendicitis, 2; trephining, 1; for hydrocele of the tunica vaginalis, 2; for chronic prolapse of the rectum, 1; for volvulus of the large intestine, 1; for fracture of the lower jaw—wired, 1; minor operations, 10. No deaths occurred as a result of the operations. Radical cure was obtained in all of the hernia cases. All the operations were successful except that for fracture of the jaw, in which union was not obtained. As regards the effect mentally, only one of these patients received benefit to the extent of complete restoration, and that was a female. In the report the age is not given; she was confined for acute mania, had suffered from chronic appendicitis, and had her appendix removed on June 13, 1899. It is further recorded that these patients were all improved to the extent that they seemed better tempered than before.

MATTERS MEDICAL IN MANITOBA.

Tuberculosis seems to claim as many victims in Manitoba as in the other provinces.

During the year, there was an outbreak of diphtheria in the Winnipeg General Hospital, attributed to bad sanitation in the building, and as a consequence, extensive alterations and repairs were made last summer.

At present, in conjunction with Dr. Torrance, a research is being carried on into the causes of swamp fever in horses, which prevails chiefly in the eastern portions of the province. It is stated that this disease commits greater ravages than any other equine disease in Manitoba.

During the year the provincial bacteriologist, Dr. Gordon Bell, made the following examinations at the laboratory: Diphtheria swabs, 2563; sputa, 529; urine, 179; blood, 62; pus, 57; pathologic tissues, 50; milk, 120. This work was double that for the previous year.

According to recent published reports, Manitoba has nine insane to every 10,000 of the population, as against 23 in Ontario. Of feeble-minded, there is 1 as against 3 in Ontario; and 3 deaf and dumb to 4 in Ontario. In the Home for Incurables, thirty patients were admitted during the last year, and 269 patients were admitted to the asylums of Manitoba from the Northwest Territories and Keewatin, up to December, 1898, the number on that date, from these districts, being 104. The cost per patient at the asylums of Manitoba was as follows: Selkirk, 48½ cents; Brandon, 48 cents; Home for Incurables, 47½ cents. As to Manitoba hospital statistics, at the Winnipeg General Hospital, 1866 patients were admitted during the year, 1140 being male and 726 female: 153 died. At the Brandon Hospital, there were 344 males and 182 females: 13 died. At Morden, 276 patients were admitted, 165 males and 111 females: there were 6 deaths. At St. Boniface 1089 males and 839 females were admitted: 65 died. At the Maternity, Winnipeg, 54 were admitted during the year, and 8 died. On Jan. 1, 1900, 5 remained in the latter institution. The general health of the province during the year was unusually good, with no serious epidemic. Only one case of smallpox was recorded, although there were hundreds in Ontario and Quebec. The Board of Health of the province recommends that a check quarantine be established by the Dominion Government at Selkirk, and that closer inspection be made at Halifax, N. S.

MATTERS MEDICAL IN THE ONTARIO LEGISLATURE.

Consumptive Sanatoria.—During the past week there was an explanation of the policy of the government in regard to the consumptive sanatoria. The provincial secretary, the Hon. Mr. Stratton, in moving the second reading of this bill, explained that it was in accord with the government's policy in aiding suffering humanity to the fullest possible extent. It provided that the council of any county might take the iniative, or a group of municipalities or counties could unite for the purpose of erecting sanatoria. The management and control of the institutions were to be in the hands of trustees elected by the municipalities. The lieutenant-governor-in-council could grant one-fifth of the sum expended on the site, building and equipment, but the sum this year for such purpose should not exceed $4000. Then the municipality would be obliged to pay $1.56 a week for each patient whose admission was approved, and a similar sum might be paid by the lieutenant-governor-in-council, out of such moneys set apart by the legislature for this purpose. Altogether, it can not be said that the Ontario government has been too lavish in this respect.

Antivaccinationists.—A deputation of antivaccinationists, headed by two or three homoeopaths and accompanied by a handful of dentists, a preacher, a bread-maker, and a goodly company of women, waited on the government, asking for the abolition of compulsory vaccination before a child could be admitted to the public schools. One of the homoeopaths, unused to the responsibility cast on him, read a short essay on vaccination, which he characterized as "the most colossal medical delusion of the century," no doubt forgetting homoeopathy in the exuberance of his animosity and verbosity. After a woman physician had exhausted her persuasive powers on the premier, a request was made by him for literature on the subject; and it is stated that large quantities were immediately forthcoming. The end of this will be a lingering death in the depths of his "serious consideration." (It is worthy of note that the item following this in the parliamentary reports deals with the "Prevention of Floods.")

Treatment of Dipsomaniacs.—Dr. Roseburgh introduced another deputation having a more laudable end in view, viz., the treatment of dipsomaniacs. He was accompanied by a number of medical gentlemen from the city, and members of the profession in the legislature, who conferred with the government as to measures to be undertaken by the government regarding the proposed hospital for inebriates. The deputation suggested the probation system for all cases of drunkenness, with a system of fines and imprisonment for confirmed drunkards, along with a grant to hospitals for treatment of the same.

Correspondence.

The Pasteur Institute.

PARIS, March 23, 1900.

To the Editor: Pasteur said, "Science has no country, but the man of science must have one, and it is to her he should bring all the influence his works might have in the world." That was Nov. 14, 1888, in his address at the inauguration of the Institute which was to bear his name. And to-day the wishes of the grand scientist and patriot have been fulfilled, the Pasteur Institute is the Mecca, to whose laboratories of research students and savants from all parts of the globe come to work, and at whose shrine, the tomb of Pasteur, the world pays homage.

The Pasteur Institute is composed of two large stone and brick buildings, style of Louis XIII, connected by a perpendicular axis building, situated in the center of well-kept grounds of almost eleven thousand square meters, at 25 Rue Dutot. The present institution was never intended as a hospital, but as a

laboratory of research, to which the hydrophobia patients could come for treatment. But there is nearing completion, across the street, and connected by an underground passage-way, a magnificent structure donated by Baroness Hirsch, in which the gravest forms of disease can be hospitalized, and where, in a most modern amphitheater and laboratories, biologic chemistry can be taught and its practical application followed at the bedside.

We enter the grounds by the iron gate near the house of the Concierge Jupille, who usually accompanies the stranger. Jupille wears several medals for bravery, as it was he who, when a shepherd boy in the Jura, strangled a mad dog, as represented by a statue in bronze before the entrance. He was one of the first patients inoculated with the attenuated virus.

The western end of the front building is occupied by Madame Pasteur and her son and grandson. Here for seven years, within a few steps of his workroom, Pasteur most happily spent the closing years of his active life, and in accordance with his modest dying request, is buried beneath his laboratory. The Pantheon longs to have his tomb among her great men, *La Patrie reconnaisant*, but with poetic instinct he is buried beneath the room whence are shipped to the entire world, the curative viruses—antitoxin of diphtheria, antipest serum, mallein, vaccin Charb., antivenene, vaccin of hog erysipelas, of chicken cholera, tuberculin and, greatest of all, antitoxin of tetanus. The tomb is opened to the public on the first and

DUCLAUX, DIRECTOR INSTITUTE PASTEUR.

third Saturdays of each month. The first time I visited it was when Roux took the class, in 1898. There was an expression of reverence and sorrow which we all felt was genuine. The thought of the address of Pasteur came into my mind, of the two principles destructive and constructive, war and peace, and I could not help comparing this tomb with that of Napoleon, with its halo of glory, its sarcophagus of prophyry, and the vault which, if filled to the dome of the Invalides, would scarcely contain the skulls of his victims—to this modest black slab, in the center of a simple vault whose walls represent (in mosaic) dogs, pigeons, chickens, cows, pigs, silkworm workers, all testifying their gratitude, while on a tablet was listed his great battles in science, not of carnage such as Austerlitz, Jena, Wagram, but: 1848, dissymetrie moleculaire; 1857, fermentation; 1862, générations dites spontanés; 1863, études sur le vin; 1865, maladies des ers a soie; 1871, études sur la biere; 1877, maladies virulents; 1880, virus vaccins; 1885, prophylaxie de la rage. What glorious victories these were for mankind! What an amount of research and experimentation they represented, as Pasteur once said: "To believe that one has discovered an important scientific fact, to have the fever of announcing it, and to constrain oneself for days, weeks, and even years, to combat oneself. To force oneself to ruin one's own experiments, and not to proclaim the discovery until all the contrary hypotheses are exhausted, is indeed a difficult task. But when, after so many efforts, one at last reaches certitude, then one feels the greatest joy known to man—contributing to the honor of one's country."

Into the chaotic state of knowledge concerning molecular structure existing prior to 1840 he brought light and system. He showed that the rotary power of the molecule on polarized light was due to dissymmetry of molecular construction and lighted up the way for modern synthetic chemistry. The great bearing on biologic chemistry, of his discovery that the protoplasm of all living cells is gifted with rotatory power, and that they contain in consequence dissymmetric molecules, and that this dissymmetry is in relation to the stability or instability of composition and can not fail to play a rôle in all the chemical compositions of which the protoplasm is the seat. His observation of the change produced in a paratartrate of ammonia solution by the action of a "penicillium" growth, conferring on this solution a left rotatory action on polarized light led him to take up the great questions of fermentation and spontaneous generation. This affinity of the penicillium for only the "right" tartrate was to him the key for opening up the secrets of special culture-media. Great were the scientific battles fought on the questions of spontaneous generation and fermentations. The confusion of ideas prevailing was largely due to the fact that the philosophic or speculative method was employed instead of the experimental and scientific which Pasteur introduced into the study of these problems. Latour, Schwann, and Helmholtz knew of the presence of these microscopic cells, but

failed to demonstrate their rôle. Liebig was his bitterest opponent in claiming that these little cells were in decomposition and brought other bodies into the same state of decomposition, whereas Pasteur showed they were living cells, which in breaking up the sugar to get carbon for their own growth, left alcohol and carbonic acid behind.

His studies led him into consideration of the fermentation of milk, where his discovery of the vibrion butyric opened the field of anaërobic life. Thence followed the explanation of putrefaction, the aërobic cells consuming the oxygen and forming a barrier at the surface, behind which the anaërobes were free to fabricate the hydrogen compounds and liberate the stinking gases. He explained adaptation of aërobes to anaërobic existence, and vice versa. He demonstrated the spore form of resistance requiring sterilization under several atmospheres of pressure, with the introduction of autoclaves into laboratories. His fractional sterilization of liquids which were injured by boiling, allowing time for spores to become cells to be more easily killed, gave us Pasteurized milk. The idea of spontaneous generation was completely exploded, Pasteur demonstrating that germs were always introduced by the air or external contamination. The sterile flask of bouillon which he presented before the Academy of Science in 1862, remains to-day, after thirty-eight years, as limpid as originally. His triumphs in wine and beer fermentation have added incalculable wealth to his country, and from a purely financial point of view

have been nearly or quite equaled by prevention of phylloxera and studies on diseases of silkworms.

The real humanitarian battle-field, however, only commenced with his discoveries in regard to anthrax and the bacillus of malignant edema, hog erysipelas, chicken cholera and hydrophobia. Chicken cholera was especially interesting because, in studying this, he found that old cultures gave a mild disease on inoculation, which conferred immunity on the animal inoculated against the virulent disease, and thus was the theory of attenuated virus launched. By cultivating anthrax at a temperature of 107 F. for eight days, spore fermentation was prevented and virus attenuated. From the decisive test of fifty inoculated sheep at Pouilly-le-Fort in 1881 until 1894 there were nearly four million sheep inoculated in France, with a mortality of only 1 per cent.; one-half a million cattle with less than 3 per cent. mortality. Pasteur's most popular discovery was the attenuation of the virus of hydrophobia. This dreadful disease, so frequent in France, appealed to the imagination of all, and the astonishing statistics published in 1894, of 20,000 patients treated with a mortality of only 5 per 1000 has conquered even the German prejudice.

But why try to enumerate the benefits of Pasteur's works? It can never be done. His influence and spirt of research have fallen like a mantle on his disciples, Roux, Duclaux, Metschnikoff, Borel, Martin, Calmette, and the natural respect among the French for their *Maitres* has in this case become a "cult" from whose chief temple high priests of science have gone forth to establish branch Pasteur institutes in India, China, Japan, Africa, Russia, and the United States. When the plague threatened Europe at Oporto, it was the Pasteur Institute which sent Calmette and Salimbeni, to whose efforts are due the splendid results of reducing the mortality from 62 per cent. in untreated to 14 per cent in those treated by pest antitoxin.

We visited the rest of the building, ascending to the large, handsome, well lighted library, with the current medical literature of the world as well as a mosts complete medical library, especially well supplied in works on bacteriology and pathology. Passing through the corridor to the rear building we turn to the right into the large laboratory for class instruction. Two courses of two months each are given here in microbiology—commencing in November and February. The cost is but nominal, nearly all material being furnished free. At no place in Paris are foreign medical men so well treated as at Pasteur's Institute, and while the French students usually have to inscribe a year in advance, foreigners are given places at once.

There is a probability of a course being given during the summer, especially for foreigners. M. Roux, whose modesty and enthusiasm for science make him a warm favorite with the students, has been in poor health for some time, and his course is given by Metschnikoff and Borel, with the collaboration of such specialists as Calmette on pests, Nocard on glanders, Martin on diphtheria, Vaillard on tetanus, Sabouraud on tricophytons, Morox on gonococci, Laveran on malaria, and others. The lectures are given from 1:30 to 3 p.m., after which there is practical work in all the processes used in bacteriology. Students who wish to follow some special line of work are allowed to continue after the termination of the spring course. If a worker already known for his researches desires the facilities of the Institute, the courtesies of Metschinkoff's laboratory on the floor above are usually extended.

Next to the general laboratory are the private laboratories of Roux and Borel, and returning to the main corridor we cross over into the domain of Duclaux and his corps of workers. Here is a most completely equipped chemical laboratory, where the successor of Pasteur as director of the Institute, reconciles into perfect harmony the sciences of bacteriology and chemistry. As professor in the Sorbonne he gives a course of lectures on biologic chemistry in his special amphitheater. As author of the most extensive work on bacteriology, not yet published, as well as director of "Les Annales d l'Institut Pasteur," which was founded under the patronage of Pasteur in 1887, and which contains in detail the unequaled work of the Institute for the past thirteen years, Duclaux is one of the hardest worked savants in Paris.

Ascending to the third floor, we find mostly private laboratories. Here are such men as Morox, Wasserman, and Christmas, whose work on the gonococcus is well known, Marmorek, known for his antistreptococcic serum and others.

Descending to the first floor, to the right are the microphotographic rooms, aquarium, and glass-blowers' room.

To better control its results the Institute tries to have every thing made on the spot. Hence they manufacture all the glassware used in cultures, peptones, etc. The librarian also fills the functions of lithographer for "Les Annales."

Crossing over to the western wing, we enter the service of the "rage" or hydrophobia. Here is a large waiting-room, to which, every day at 10 a.m., about fifty patients come for treatment. They pass first into the registry-room, where complete records of cases can be kept. Cases are categoried under three groups: 1. Those where "rage" is demonstrated to exist in the animal inflicting the wound, as shown by inoculation into the brain of a rabbit, with resulting paraplegia and death in eight days. 2. Those with a veterinary surgeon's certificate. 3. Those with no scientific proof of the existence of rabies in the suspected animal. In the next room the inoculations are made. All necessary antiseptic precautions are used, and there are never any unpleasant symptoms following injections, which are commenced in a new case with triturations of the rabbit's spinal cord, which has been attenuated for fourteen days, increasing the intensity of the dose up to eight days' attenuation, then recommencing.

In the next room the rabbits are inoculated by trephining the skull and introducing the trituration of the spinal cord of the rabbit that died the day before. A rabbit has died of hydrophobia each day for twenty years. This maintains the culture in all its virulence. For the attentuation, acting on the same ideas as with chicken cholera, i. e., cultures in becoming old lose virulence, the removed cord is suspended in a sterile jar containing caustic postash in the bottom. This jar is placed in one of a row of compartments with wire gauze doors, in a dark room, kept at a uniform temperature of 23 C. At the end of fourteen days the cord loses its toxic properties. A control tube of bouillon into which a fragment of the cord was placed on removal from the rabbit indicates freedom from contamination. This must remain clear, otherwise the cord is condemned and not used. The rabbits which have been inoculated are kept in very hygienic cases which can be flushed and food introduced without disturbing the animals. Several outhouses contain guinea-pigs, rabbits, chickens, geese, ducks, pigeons, mice and rats for use in the laboratory. A separate house contains the cages of animals inoculated and under observation.

The farm adjunct at Garches, near St. Cloud, has 200 horses which furnish the antitoxins of diphtheria, tetanus and pest.

A. D. NEWBORN, M.D.

Bacteriology and Pathology Society.

April 12, 1900

To the Editor: The undersigned believe that the time has come for the formation of a national society, devoted to the advancement of the interests of the medical sciences, as distinct from the clinical side of medicine. The proposed society will be specially concerned with pathology and bacteriology, and a meeting for discussion of its plan and scope will be held in Washington, D. C., on the afternoon of Monday, April 30, at 2:30 p.m., in the Arlington Hotel. The general plan of the Society, so far as yet suggested, is:

1. Membership is limited to those who have already accomplished creditable work in research in pathology or bacteriology. 2. Meetings to be held annually in some important center, as may be determined (in May or June). 3. Members of the society to see that the work done by them, or under their control, is represented at the meetings of the society.

Very truly yours,

WM. T. COUNCILMAN.
HAROLD C. ERNST.
SIMON FLEXNER.
LUDVIG HEKTOEN.
WM. T. HOWARD, JR.
W. H. PARK.
THEOBALD SMITH.

Ethical Proprietary Preparations.

NEW YORK CITY, April 8, 1900.

To the Editor: I read your editorial and notice to your advertisers in THE JOURNAL of March 31, and believe that as far as a criterion can go by which to accept or reject advertisements of the proprietary medicines used by physicians, the one you have adopted is the most practical of any that has come to my knowledge. As editor of the "Medical Directory of New York, New Jersey and Connecticut," I was compelled to study the subject of the advertising of proprietary medicines, and while I believe that an ethical preparation is one, the published formula of which, in the hands of a competent pharmaceutical chemist, will reproduce the identical preparation found on the market, yet the standard adopted by you, to-wit: "the publication of the quantity of the active ingredients in all proprietary medicines advertised to physicians only," is a practical solution of the question and perfectly fair to honest commercial interests and to medical science. My definition of an ethical preparation must be considered ideal as applied to the business end of medical publications. In other words, it is ideal but not practical. If physicians know the quantity of the active ingredients of proprietary medicines brought to their notice, it seems to me to be as much as the profession can ask of honest commercial houses. The nicety of the preparation, so far as it is due to filtration or the cleanliness or the temperature or some other trade secret connected with the art of uniting the active ingredients in the quantities given to produce an elegant preparation, must be considered as belonging to the rights of honest commercialism. While we hope that the time will come when commercialism will not be considered as having any rights in inventions or discoveries that have to do with the promotion of public health and the treatment of disease, yet it does seem as though honest commercialism should be to-day recognized in the protection, for a limited time, which the patent laws grant to inventors and discoverers as a stimulus to their work of continuing what might be a profitless investigation without government protection. The abuse of the copyright and trade-mark laws so as to protect secret preparations in perpetuity is a matter worthy of the immediate consideration of Congress.

There is always a conflict between an ideal and a practical standard of judging any question. I am one of those who believe that the practical solution of any question leads to something better and thereby approaches the ideal.

You are to be congratulated for starting to clean up the advertising pages of THE JOURNAL, and may your good beginning lead all medical publications to a higher end.

E. ELIOT HARRIS, M.D.
Chairman of the Committeee on Legislation, New York State Medical Association.

Book Notices.

A MANUAL OF SURGERY. By Charles Stonham, F.R.C.S., Senior Surgeon to the Westminster Hospital. In three volumes, Vol. I. General Surgery. Vol. II. Injuries. Vol. III. Regional Surgery. Cloth. $6. New York: The MacMillan Co. 1900.

This is an American reproduction of an English work on surgery which has as its chief purpose to give a brief succinct account of surgical principles and measures and to serve as a convenient manual for students and practitioners. It is different in form from the usual American text-book, divided into three volumes, each of convenient, almost pocket, size. This has its advantages for study and handy reference, and might be more generally adopted without causing complaint, provided the work is not thus made any more expensive as a whole.

The first volume deals with general surgery and surgical diseases, and gives within a comparatively brief compass a detailed account of the subject. In the second volume injuries are considered and the third covers the subject of regional surgery. As compared with most American works of the same general compass less detail is given to some subjects, such as inflammation and its varieties, appendicitis, and some others, but these are fairly handled, and as a manual rather than as an exhaustive treatise it covers, in its 1200 and more pages, the general subject of surgery quite fully. It is English largely in its references to apparatus, etc., some of which are not so likely to be useful to the student in this country on that account, but this is comparatively a minor matter. One can honestly recommend the work for the purpose for which it was designed. A very convenient feature is the complete index repeated in each volume.

"CHRISTIAN SCIENCE." An Exposition of Mrs. Eddy's Wonderful Discovery, Including its Legal Aspects. A Plea for Children and other Helpless Sick. By William A. Purrington, Lecturer in the University and Bellevue Hospital Medical College. Cloth. Pp. 194. Price $1. New York: E. B. Treat & Co. 1900.

This is largely a reproduction of articles published in the *North American Review, Medical Record* and *New York Sun*. The author is a well-known legal authority and a lecturer of Bellevue Hospital Medical College. He also, as might be expected, has very accurate and adequate ideas of the questions of medical science so far as they are involved in the subject treated. If any one wishes to get a fair idea of the modern delusion called "Christian Science," as seen from a medico-legal point of view, we would advise him to read this work. Besides the articles on Eddyism there are two chapters on subjects equally of interest to the medical practitioner, one on "How Far Can Legislation Aid in Maintaining a Proper Standard of Medical Education?" the other on "The Evolution of the Apothecary." Inasmuch as almost every physician has to deal directly or indirectly with the delusion of "Christian Science," or is liable to in his practice, acquaintance with this volume will certainly be of advantage.

A SYSTEM OF MEDICINE. BY MANY WRITERS. Edited by Thomas Clifford Allbutt, M.A., M.D., LL.D., D.Sc., F.R.C.P., F.R.S., F.L.S., F.S.A., Regius Professor of Physic in the University of Cambridge. Volume IX. Cloth. Pp. 998. Price, $5. New York: The MacMillan Co. 1900.

The eighth volume of Allbutt's System of Medicine (numbered 9 in the title page and cover) contains a continuation of the subject of nervous diseases, with the section on mental disorders and that on disorders of the skin. In the first part we have, among other things, elaborate articles on hysteria, by Ormerod; on neurasthenia, by the editor, Dr. Allbutt; on traumatic neurasthenia by Professor Horsley. All of these, as well as the shorter ones, are valuable and important contributions. We should mention as also noteworthy the article by Risien Russell on tetany, which has also quite an extensive bibliography appended. The longest, and in some respects most noteworthy, article, that of Dr. Mercier on "Vice, Crime and Insanity," is well worth reading. The section on mental disease is contributed to by such authors as Drs. Savage, Warner, Shuttleworth, Beach, Mercier, Clouston, Rayner, Batty Tuke and others whose names are a guarantee of the value of the separate chapters. As in all composite works, however, there is some lack of perfect co-operation. The section on skin diseases occupies the larger half of the work. The names of the contributors include Drs. Stephen Mackenzie, Payne, the editor of the section, Dr. Brooke, of Owens College, Drs. Crocker, Malcolm Morris, Jonathan Hutchinson, Henry Head, and others scarcely less well known. The section forms a very useful and apparently thorough text-book on skin diseases. As a whole the volume very worthily fills out the series.

IMPERATIVE SURGERY FOR THE GENERAL PRACTITIONER, THE SPECIALIST AND THE RECENT GRADUATE. By Howard Lilienthal, M.D. Price $4. New York: The Macmillan Co.

In criticising this work one is somewhat disarmed by the statement in the preface that it "presupposes the absence of a surgeon and the impossibility or inexpediency of removing the patient or of waiting for expert assistance." The number and distribution of good surgeons would make the fulfilment of the above conditions a very rare occurrence in this day. Some of the advice approaches very near the laity, and repetition is common, as the author remarks. The use of the dangerous 4 per cent. solution of cocain subcutaneously as a local

anesthetic, when Schleich's solutions are so harmless and efficient, can not be endorsed. Nor can the advice to suture the gall-bladder to the skin in cholecystostomy, owing to the difficulty often experienced in closing such fistulæ. The recommendation to leave the skin unsutured and pack with gauze in the radical operation for hernia shows a lack of confidence in the ability to do clean work, and increases much the danger of secondary infection of the deep layers.

There are certainly emergencies in all lines of work, which must be met on the spur of the moment with what lies next to hand, but the majority of the subjects handled in this volume do not come under that head. The illustrations are good, and the publisher's work has been well done.

CLINICAL STUDIES IN VICE AND INSANITY. By George R. Wilson, M.D., Medical Superintendent, Mavisbank Asylum. Cloth. Pp. 235. Price $3. New York: The MacMillan Co. 1899.

Most works on mental diseases have a certain interest in their clinical histories, but there are very few in which the accounts of cases are written more racily or entertainingly than in this. The book is made up chiefly of the accounts of some twenty-seven cases of alcoholism or alcoholic insanity and other forms of mental disease in which the moral sense is more or less involved in the general aberration. The author introduces it as usual with certain general chapters on the pathology of drunkenness, etc., but they occupy only some fifty out of over 200 pages. The book is also quite instructive as to methods and management, and the author is evidently a man of experience and judgment in the handling of these cases. He does not make any attempt to classify them; in fact he does not believe in the classification of insanity, and some of the cases, the histories of which he gives, would be rather puzzling to place. There may be differences of opinion in regard to some of his ideas, though it can not be questioned that he has given a valuable as well as unusually interesting work.

THE DISEASES OF CHILDREN. MEDICAL AND SURGICAL. By Henry Ashby, M.D., F.R.C.P., Physician to the General Hospital for Sick Children; and G. A. Wright, B.A., M.B., Oxon. F.R.C.S., Assistant Surgeon to the Manchester Royal Infirmary. Fourth Edition. Edited for American Students, by William Perry Northrup, A.M., M.D., Professor of Pediatrics, The University of Bellevue Hospital Medical College. Cloth. Pp. 894. Price, $5. New York, London and Bombay: Longmans, Green & Co. 1900.

This American reproduction of a well-known British work is a valuable addition to our literature on its subject. In the main, the American editor has, as he says, left the text intact, adding only, in the appendix, a few notes on dietetic preparations, intubation, drugs, etc., and certain surgical procedures, these last additions being made by Dr. T. Halsted Myers. The formulæ have been entirely rewritten to conform to the U. S. Pharmacopeia. Inspection of the work shows it to be a modern text-book that will very fairly meet the needs of the practitioner. Some subjects that just now are prominent are rather briefly treated, that of adenoids for example, which is disposed of in hardly more than half a page, but what is said is probably sufficient. The book is well illustrated and has an excellent index.

A PILGRIMAGE: OR THE SUNSHINE AND SHADOWS OF THE PHYSICIAN. By Wm. Lane Lowder, B.S., M.D., McKinney, Ky. Price, $1. Published by the Author.

The book is made up principally of essays and papers presented to different medical societies, on subjects relating to the physician's personal and professional life. They cover the mental, moral, literary and professional qualifications of the physician, his relationship to the public, the profession, and to himself, medical ethics, medical societies, etc. Although a little, unpretentious volume of only 196 pages, it contains much good sound sense, and is well worth reading.

TRANSACTIONS OF MISSISSIPPI VALLEY MEDICAL ASSOCIATION. Twenty-fifth Annual Session, held at Chicago, Ill., Oct. 3, 4, 5 and 6, 1899. Vol. 1. 1899.

This is the first time that the Mississippi Valley Medical Association has published its transactions. These make a large book, nearly 500 pages, and it includes all of the papers read at the last meeting, as well as the discussions. The Constitution and By-Laws of the Association are included, but not the list of members. The book, as a whole, is a credit to the publication committee, and the committee is to be congratulated on the result of its efforts. The color adopted for the binding—blue—may reflect the condition of the committee at the time this was selected, but, as a thing of beauty, it does not add to the artistic appearance of the book. This, however, may be simply a matter of taste.

THE YEAR-BOOK OF THE NOSE, THROAT AND EAR. Edited by G. P. Head, M.D., Professor of Laryngology and Rhinology in the Post-Graduate Medical School of Chicago, and Albert H. Andrews, M.D., Professor of Otology in the Post-Graduate Medical School of Chicago. Cloth. Pp. 275. Price $1.50. Chicago: Chicago Medical Book Co. 1900.

The editors of this year-book have produced what ought to be of service to those engaged in the specialty of rhinology and otology and can also very well be of value to the general practitioner. They have brought together and classified in readable, abstract form the substance of leading articles which were published during the past year on diseases of the nose and throat and of the ear, collected from the current medical literature and from monographs. The venture is practically a new one, but it starts well and we hope it will be as worthily continued.

HISTOLOGY AND PATHOLOGY. A Manual for Students and Practitioners. By John Benjamin Nichols, Demonstrator of Histology, Medical Department of Columbian University, Washington, D. C.; and Frank Palmer Vale, M.D., Assistant in Pathology, Medical Department of the University of Georgetown, Washington, D. C.; Series Edited by Bern B. Gallaudet, M.D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, Columbia University, New York City. Illustrated with 213 Engravings. Cloth. Pp. 458. Price, $1.75. Philadelphia and New York: Lea Brothers & Co.

This volume appears to serve its purpose in presenting the essential facts relative to the normal and pathologic histology and anatomy of man in a concise and systematic way. It seems to be a very good compilation on the subject, is well illustrated, and for those who desire merely brief data without discussion or elaborate explanation it will serve a useful purpose. So far as we can see it is up-to-date and the facts are generally reliable.

Association News.

Committee on National Legislation.—Notice has been sent to the delegates to the National Legislative Conference of the AMERICAN MEDICAL ASSOCIATION, to meet in Washington on May 1 and 2 next, with headquarters at the Arlington Hotel. Arrangements have been made for rooms at the hotel for $4 and $5 a day, American plan. The delegates are requested to communicate with Mr. Bennett, manager, and secure reservations, and also notify the legislative committee through its chairman, Dr. H. L. E. Johnson, that they will be present at the time appointed.

Hotel Accommodations in Atlantic City.—The communications received from the leading hotels of Atlantic City in reply to inquiries made by the Hotel Committee are most satisfactory expressions of the readiness of hotel managers to make the members of the ASSOCIATION and their families as comfortable as possible during their sojourn in the city. The Committee sent to the principal houses printed forms to be filled in, thus securing clear statements as to rates and precluding all possibility of any annoying overcharges or "extras" appearing later on the bills of their guests. In almost all the hotels named in the subjoined list special and reduced rates are appended:

NAME.	CAPACITY.	RATES PER DAY. SINGLE.	DOUBLE.
Albemarle	350	$2.50	$4.00
Atglen	200	2.00	3.00—$3.50
Avon Inn	200	2.50—3.50	4.00— 6.00
Brexton	300	2.50	4.00
Brighton	300	3.50—6.00	8.00—12.00
Berkley	300	3.00	5.00

NAME	CAPACITY.	RATES PER DAY. SINGLE.	DOUBLE.
Belmont	300	3.00	5.00
Bleak House	300	3.00—5.00	5.00— 6.00
Boscobel	150	2.50	4.00
Cornell Inn	200	2.00	6.00
Chalfonte	250	3.00—4.00	6.00— 7.00
Canfield	50	2.00	4.00
Colonial	80	2 50	5.00
Dennis	425	3.00—5.00	6.00—10.00
DeVille	300	2.50—3.00	5.00— 6.00
Edison	50	2.00	3.50
Garden	300	3.00—5.00	5.00— 8.00
Grand Atlantic	600	3.00	6.00
Glaslyn	300	3.00	5.00
Holmhurst	300	3.00	5.00
Haddon Hall	450	3.00—5.00	6.00—10.00
Hotel Esmond	150	2.00—3.50	4.00— 6.00
Irvington	200	2.00	4.00
Imperial	300	2.50—3.00	4.00— 6.00
Lelande	250	2.50	4.50
Laurence	200	2.00—3.50	4.00— 6.00
Loraine	250	3.00	5.00
Luray	400	3.00 up	6.00 up
LaBelle Inn	125	2.00—2.50	4.00— 5.00
Morton	250	2.00—3.00	4.00— 6.00
States Villa	65	2.50—3.00	4.00— 5.00
Majestic	250	2.50—3.00	4.00— 5.00
New England	350	3.00	5.00
Oriental	150	3.00	5.00
Ponce de Leon	300	2.50—3.00	5.00— 6.00
Pennhurst	150	2.50—3.00	5.00— 6.00
Pierrepont	350	3.00—4.00	5.00— 6.00
Raleigh	300	2.50	4.00
Raymond	125	2.00	4.00
Runnymede	200	2.50	4.00
Revere	100	2.50	5.00
Rudolf	600	3.00—4.00	8.00
Richmond	290	2.50	4.00
Royal Palace	500	3.50 up	7.00 up
Sea Bright	100	2.00—2.50	4.00— 5.00
Shelburne	350	3.00—4.00	6.00— 7.00
St. Charles	325	3.50	6.00
Senate	250	3.00	5.00
Strand	250	2.50	5.00
Seaside House	300	3.00—4.00	6.00— 8.00
Scarborough	250	3.00	5.00
Stickney	150	2.00	3.50
Traymore	450	3.50—5.00	7.00—10.00
Westminster	200	2.50	4.00
Wiltshire	300	2.50	4.00
Windsor	300	3.50 up	7.00 up
	CHELSEA.		
Board walk connects with Meeting Hall.			
Chelsea	500	4.00	7.00
Gladstone	300	3.00—7.00	5.00—10.00
Ravenroyd	85	2.00	4.00
St. John	125	3.00	6.00
Savoy	300	3.00—4.00	6.00— 7.00

In order to assure our members that their convenience has been carefully studied it is well to state that the above list includes only the principal hostelries from half a square to twelve squares distant from the main rendezvous of the ASSOCIATION. All are in close proximity to the board walk, which famous marine promenade leads directly to all points of interest. The scale of prices for accommodations will be found most moderate for the season, and when it is added that the necessarily limited list excludes all mention of hundreds of smaller hotels and boarding-houses in Atlantic City, it is plain that visitors will have wide latitude for choice. All may come assured of comfort and convenience at rates varying from $1.50 per diem to the highest figures quoted in the above list. It should perhaps be added that visitors who desire to stay in the hotels of the quiet and beautiful Chelsea suburb will find, in the electric cars, easy transportation to and from the meetings—the cars taking them within two squares of all such points. Then the city's copious omnibus service, with ten-cent fares affords unusual facilities for the transport of individuals or parties in all directions, and at all hours. The Committee recommends that application for rooms be made directly to the hotels, but they hold themselves ready to attend promptly to any correspondence and to furnish any special information that may be required.

EMERY MARVEL, M.D., Chairman, 811 Pacific Avenue.

Section on Surgery and Anatomy.—The titles of papers thus far received for the Section on Surgery and Anatomy, for the meeting at Atlantic City, N. J., June 5-8, 1900, are as follows:

A New Leg Splint—Edward A. Tracy, South Boston, Mass.

Appendiceal Fistula—John B. Deaver, Philadelphia.

Surgical Shock: Second Paper—Fenton B. Turck, Chicago.

Auto-Irrigations of Urethra and Bladder—Ferd C. Valentine, New York City.

Treatment of Obstinate Constipation, Dependent on New Points in Anatomy and Histology of Rectum and Colon—Joseph M. Mathews, Louisville, Ky.

Anatomy of Hanging—E. W. Holmes, Philadelphia.

Gall-Bladder—M. H. Richardson, Boston.

Ligation of Carotid—W. P. Nicholson, Atlanta, Ga.

Dislocation of Thumb—H. R. Wharton, Philadelphia.

Drainage of Lung Cavities—W. S. Willis.

Dislocations—A. D. Bevan, Chicago.

Injection Cure of Hernia—G. G. Cotton.

Old Age Influencing Surgical Operations—J. P. Tuttle, New York City.

Report of Case of Specific Myositis, Simulating Retroperitoneal Sarcoma—Ernest Laplace, Philadelphia.

Colostomy for Permanent Fecal Fistula—John A. Wyeth, New York City.

Non-Perforating Gastric Ulcer, With and Without Hemorrhage—W. L. Rodman, Philadelphia.

Removal of Mucous Membrane of Gall-Bladder, a Substitute for Cholecystectomy—William J. Mayo, Rochester, Minn.

Proctoscopy at the Bedside, by Means of a New Device—Thomas Charles Martin, Cleveland, Ohio.

Restitution of Continuity of Shaft of the Tibia, by Transplantation of Patella Between the Fragments—N. Senn, Chicago.

Destruction of Cancerous Growths Within Organs by Cataphoric Sterilization, Without Removal of the Unaffected Portions of the Organs—G. Betton Massey, Philadelphia.

Coccygeal Dermoids—J. R. Eastman, Indianapolis, Ind.

Cystitis—C. C. Thayer, Clifton Springs, N. Y.

Bone Tuberculosis—DeForrest Willard, Philadelphia.

Cure of Functional Impotence—J. Murray, Clearfield, Pa.

Fractures of the Patella—J. M. Barton, Philadelphia.

Presentation of Surgical Table—A Munger, Spencer, Iowa.

Operative Treatment of Diseases of Shafts of Long Bones—Stewart L. McCurdy, Pittsburg, Pa.

Moveable Kidney—M. L. Harris, Chicago.

Vesicorectal Anastomosis for Exstrophy of Bladder, With Report of Case—A. E. Halstead, Chicago.

Treatment of Hernia in Children—A. J. Ochsner, Chicago.

Exclusion of Intestinal Area from Fecal Tract—J. B. Murphy, Chicago.

Treatment of Injuries of Ureter—B. B. Davis, Omaha, Neb.

Comments on Appendicitis as Commonly Practiced—Joseph Price, Philadelphia.

Tuberculosis of Prostate and Vesiculæ Seminales—Albert I. Bouffleur, Chicago.

Ambulatory Treatment of Fracture With Demonstration of a New Apparatus for Ambulatory Treatment of Fractures Below the Knee—Edward H. Lee, Chicago.

Skiagraphic Errors in Surgery—Carl Beck, New York City.

Section on Materia Medica, Pharmacy and Therapeutics.—The following program is announced for this Section, at the coming meeting of the ASSOCIATION:

Chairman's Address—L. L. Solomon, Louisville, Ky.

Title to be announced—E. G. Janeway, New York City.

Heart Tonics—J. N. Upshur, Richmond, Va.

Symposium of the Newer Remedies, Including their Chemistry, Physiologic Action and Therapeutic Applications, together with New Applications of Some of the Older Remedies—J. W. Wainwright, New York City.

Aconite—E. C. Brush, Zanesville, Ohio.

Action of Chloralose as a Hypnotic—James Tyson, Philadelphia.

Neglect of Old Remedies—Herschel Fisher, Lebanon, Ohio.

Treatment of Chronic Interstitial Nephritis—Chas. Lyman Greene, St. Paul, Minn.

Therapeutics of Croupous Pneumonia—J. M. Allen, Kansas City, Mo.

Therapeutic Progress—J. Tracy Melvin, Saquache, Colo.

Relative Value of Various Forms of Local Treatment in Erysipelas—H. A. Hare, Philadelphia.

Some Dangers from the Use of Narcotics in Young Persons—T. D. Crothers, Hartford, Conn.

Treatment of Gastric and Duodenal Ulcer—F. L. Shattuck, Boston, Mass.

Therapeutics of Vertigo—Leonard Corning, New York City.

Use of Adhesive Plaster in Various Internal Conditions—J. H. Musser, Philadelphia.

Pharmacology and Ethics—F. E. Stewart, New York City.

Gastrointestinal Remedies in Typhoid Fever—J. M. Anders, Philadelphia.

A Protest Against the Use of Patented Synthetics and Proprietary Remedies—D. R. Brower, Chicago.

Importance of Early Recognition of Tuberculosis—A. M. Holmes, Denver, Colo.

Present Views on the Use of the Unbroken Skin as an Absorbing Medium—T. F. Reilly, New York City.

United States Pharmacopeia of 1900—Jos. P. Remington, Philadelphia.

Therapeutic Application of the Organic Extracts—O. T. Osborne, New Haven, Conn.

Classification of Medicines Based on the Time Required to Produce Their Effects—W. H. Thompson, New York City.

Dietetic Treatment of Diabetes—N. S. Davis, Jr., Chicago.

Plea for Greater Simplicity in Therapeutics—L. F. Bishop, New York City.

Rôle of Drugs in Management of Consumption—S. Solis-Cohen, Philadelphia.

Pharmaco-Physiologic Action of Drugs as Contrasted with Their Alleged Specific Action—Geo. F. Butler, Chicago.

Treatment of Alcoholism by Large Doses of Digitalis—H. P. Loomis, New York City.

Ointments—Frank Woodbury, Philadelphia.

Pharmacologic Assay of Drugs and Its Importance in Therapeutics—E. M. Houghton, Detroit, Mich.

Psychic Therapeutics—J. C. Culbertson, Cincinnati, Ohio.

Hydriatic Treatment of Chronic Disorders—J. H. Kellogg, Battle Creek, Mich.

Treatment of Addison's Disease, with Case—John V. Shoemaker, Philadelphia.

Irrigation of Colon as a Therapeutic Measure—Geo. J. Lochboehler, Washington, D. C.

Therapeutic Skepticism—H. V. Sweringen, Fort Wayne, Ind.

Lavage of Stomach as a Therapeutic Measure in Treatment of Constipation—C. D. Spivak, Denver, Colo.

Therapy of Malignant Cases of Acute Infections—J. C. Lange, Pittsburg, Pa.

Treatment of Migraine—E. W. Mitchell, Cincinnati, Ohio.

Some Points in Treatment of Gastric Ulcer—D. D. Stewart, Philadelphia.

Title to be Announced—W. B. Hill, Milwaukee, Wis.

Title to be Announced—C. C. Yarbrough, Detroit, Mich.

Title to be Announced—T. H. Stucky, Louisville, Ky.

Value of Potassium Bicarbonate in Practice—Stephen Harnsberger, Catlett, Va.

Decadence of the Crude Drug—Lucius E. Sayre, Lawrence, Kan.

The Metric System—F. G. Wheatley, North Abington, Mass.

Management of the Third Stage of Diabetes Mellitus, and of the Coma Diabeticum, also Dietetic Treatment of Cyclic Albuminuria—H. Stern, New York City.

The Pharmacopeia, the Medical Journal and the Profession—A. L. Benedict, Buffalo, N. Y.

Deaths and Obituaries.

BENJAMIN F. LEONARD, M.D., died in Baltimore, Md., April 10, of pneumonia. He was born April 14, 1847, educated at West River Institute, took the degree of M.D. at the University of Maryland School of Medicine in 1876, and pursued postgraduate study at the College of Physicians and Surgeons, Baltimore, and at Bellevue Hospital Medical College, New York City. He became a member of the Medical and Chirurgical Faculty of Maryland in 1877 and was later professor of diseases of women and children in the Baltimore Medical College. He latterly paid most attention to diseases of the rectum.

HOLLY R. WINCHESTER, M.D., a graduate of the Baltimore University School of Medicine, 1890, committed suicide near Annapolis, on the 9th inst., by shooting himself. He had been in ill-health for some time. For some years he practiced in Chicago, but since 1896 had been practicing in Annapolis.

CHARLES D. BRADLEY, M.D., Chicago, died April 7, aged 49 years. He was born in Quebec, Canada, and came to Chicago fifteen years ago. Soon after establishing himself here he became a member of the staffs of St. Joseph's and St. Anthony's hospitals, and was made chief surgeon to the House of the Good Shepherd and St. Vincent's Orphan Asylum.

FRANK D. KIMBALL, M.D., aged 24 years, for two years house surgeon of the City Hospital on Blackwell's Island, N. Y., died April 12, from suppurative meningitis resulting as a complication of influenza. He was a graduate of Dartmouth College and the University Medical College, New York City.

CHARLES C. EASTMAN, M.D., Geneva Medical College (now extinct), 1866, assistant manager of the Binghamptom (N. Y.) State Hospital for the Insane, died in that town, April 12. He had been connected with the institution since its establishment, in 1869.

ROBERT FRANCIS CUNNION, M.D., College of Physicians and Surgeons, N. Y., 1892, of Brooklyn, N. Y., died in that city April 7, aged 30 years.

W. D. BRENGLE, M.D., of Henry County, Va., formerly of Frederick County, Md., died near Ridgeway, Va., April 9, of heart disease. He was 62 years old.

GEORGE H. CONKLIN, M.D., died April 12, at Babylon, N. Y. He was born in 1811.

WILLIS H. HUNT, M.D., Camden, N. J., died April 11, aged 45 years.

JAMES PHELPS BING, M.D., Portsmouth, Ohio, died April 8, aged 78 years.

Miscellany.

Medical Pigeon Service.—Dr. Bonenfant of Linselles, Nord, France, writes to the *Gaz. Méd.* that he has been using carrier pigeons since 1894. He has a small office in a village nearly three miles distant, where the sick in the neighborhood apply when they need him. The caretaker of the office despatches a pigeon to him with the various calls, before he leaves home, so that he can plan his route and save much time and trouble.

Best Means of Preventing Disease and Deformities.—Professor Hegar comments admiringly on the legislation in North Dakota and Michigan prohibiting marriage to persons known to be idiots or insane or affected with still uncured gonorrhea or syphilis, and hails it as a great progress, in an article with the above heading in the lay magazine, *Deutsche Revue* (xxv, 1). He observes that animals are incapable of looking out for the welfare and health of their young, and man does it for them by judicious breeding. "Man degrades himself to the level of an animal when he neglects to do this for his own offspring." Hegar hopes to see public opinion educated until marriage between relations or persons resembling each other too closely will cease to occur. He adds that even a good point, doubled in the descendants by inheritance from both progenitors, may be so exaggerated as to be a defect. He would like to see marriage prohibited by legislation to all persons with a deformity, an infirmity, a disease or an intoxication, whenever appreciable and permanent injury to the descendants may be anticipated. He considers improvement and cure more probable with tuberculosis and alcoholism than in case of syphilis. "Continuous general good health indicates that recovery is complete." He includes among the infirmities which should bar marriage the growing together of fingers and toes, hare-lip, cleft palate, diseases of the blood, epilepsy, insanity, idiocy and perverse sexual characteristics. "Crossing with good blood is too long and uncertain a process and it is unjust to the good blood to mate it with disease." "We build sanatoria to remedy effects, when by keeping city streets free from dirt and dust and giving the poor sanitary homes, we would accomplish far more by eradicating the chief causes, and by bolting the door against the birth of crippled and

diseased children—congenital martyrs who may in turn propagate others—diseases and deformities would be reduced in geometrical progression."

BOOKS AND PAMPHLETS RECEIVED.

Acknowledgement of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interests of our readers.

A CYCLOPEDIA OF PRACTICAL MEDICINE AND SURGERY. A Concise Reference Book, Alphabetically Arranged, of Medicine, Surgery, Obstetrics, Materia Medica, Therapeutics, and the Various Specialties, with Particular Reference to Diagnosis and Treatment. Compiled under the Editorial Supervision of George M. Gould, A.M., M.D., and Walter L. Pyle, A.M., M.D., Assistant Surgeon to Wills Eye Hospital. 73 Contributors. Quarto. Illustrated. Sheep or Half Dark Green Leather, $10: Thumb Index, $11. Half Russia, Thumb Index, $12. Philadelphia: P. Blakiston's Son & Co. 1900.

DISEASES OF THE STOMACH. Their Special Pathology, Diagnosis, and Treatment, with Sections on Anatomy, Physiology, Chemical and Microscopic Examination of Stomach Contents, Dietetics, Surgery of the Stomach, etc. By John C. Hemmeter, M.D., Professor in the Medical Department of the University of Maryland, Baltimore. With many original illustrations, a number in colors. Second Edition. Enlarged and Revised. Octavo. Pp. 898. Cloth. Price, $6 net. Philadelphia: P. Blakiston's Son & Co.

ESSENTIALS OF SURGERY, Together with a Full Description of the Handkerchief and Roller Bandage. Arranged in the Form of Questions and Answers. Prepared Especially for Students of Medicine. By Edward Martin, A.M., M.D., Clinical Professor of Genito-Urinary Diseases in the University of Pennsylvania. Illustrated. Seventh Edition, Revised and Enlarged, with an Appendix Containing Full Directions and Prescriptions for the Preparation of the Various Materials used in Antiseptic Surgery; also Several Hundred Receipts Covering the Medical Treatment of Surgical Affections. Cloth. Pp. 335. Price, $1. Philadelphia: W. B. Saunders. 1900.

ELEMENTS OF CLINICAL BACTERIOLOGY. For Physicians and Students. By Ernst Levy, M.D., Professor in University of Strassburg, and Felix Klemperer, M.D., Private Docent in University of Strassburg. Second Enlarged and Revised Edition. Authorized Translation by Augustus A. Eshner, M.D., Professor of Clinical Medicine in Philadelphia Polyclinic. Cloth. Pp. 425. Price, $2.50. Philadelphia. W. B. Saunders. 1900.

TWENTIETH CENTURY PRACTICE. An International Encyclopedia of Modern Medical Science. By Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M.D., New York City. In Twenty Volumes. Volume XIX. "Malaria and Micro-Organisms." New York: William Wood & Company. 1900.

ANESTHETICS, Their Uses and Administration. By Dudley Wilmot Buxton, M.D., B.S., Member of Royal College of Physicians. Third Edition. Cloth. Pp. 320. Price, $1.50. Philadelphia. P. Blakiston's Son & Co. 1900.

ON DIABETES MELLITUS AND GLYCOSURIA. By Emil Kleen, Ph.D., M.D. Octavo. Pp. 313. Price, Cloth $2.50 net. Philadelphia: P. Blakiston's Son & Co. 1900.

INTERNATIONAL MEDICAL ANNUAL AND PRACTITIONER'S INDEX: A Work of Reference for Medical Practitioners. Pp. XII, 748. Price, $3. New York: E. B. Treat & Co. 1900.

The Public Service.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., March 30 to April 6, 1900, inclusive:

Wm. H. Arthur, major and surgeon, U. S. A. in addition to his present duties is assigned as medical superintendent of the army transport service at San Francisco, Cal.

Lawrence C. Carr, major and surgeon, Vols., now at Santiago, Cuba, to duty as chief surgeon, Department of Santiago and Puerto Principe

Calvin DeWitt, lieutenant-colonel, deputy surgeon-general, U. S. A., relieved from duty as chief surgeon of the Division of Cuba, to proceed to New York City, and report by telegraph to the adjutant-general for further orders.

Benjamin J. Edger, lieutenant and asst.-surgeon, U. S. A., from the Military Academy, West Point, N. Y., to San Francisco, Cal., for duty in the Department of California.

Charles G. Eicher, acting assistant-surgeon, now at Jefferson Barracks, Mo., is relieved from further duty in the Department of Puerto Rico and assigned to duty in the Department of California.

Valery Havard, major and surgeon, U. S. A., from the Department of Santiago and Puerto Principe to Havana, Cuba, for duty as chief surgeon of the Division of Cuba.

Thomas W. Jackson, acting asst.-surgeon, from Pinar del Rio Barracks, Cuba, to New York City, thence to report by telegraph to the adjutant-general for further orders.

Millard Langfeld, acting asst.-surgeon, former orders directing him to proceed from Omaha, Neb., to San Francisco, Cal., revoked.

Willard S. H. Matthews, major and surgeon, Vols., now at the Presidio of San Francisco, Cal., is relieved from further duty in the Division of the Pacific and will report for duty as attending surgeon and examiner of recruits at St. Paul, Minn.

Frank R. Maura, acting asst.-surgeon, from New York City to the Department of California.

Albert L. Miller, acting asst.-surgeon, now at Jefferson Barracks, Mo., is relieved from further duty in the Department of Porto Rico and assigned to duty in the Department of California.

BOARD OF EXAMINERS CONVENED.

A board of medical officers, to consist of Major Valery Havard, surgeon, U. S. A.; Major William C. Gorgas, surgeon, U. S. A.; Major Jefferson R. Kean, surgeon, U. S. V.; and Capt. William W. Quinton, asst.-surgeon, U. S. A., is appointed to meet in the city of Havana, Cuba, May 1, 1900, for the examination of acting assistant-surgeons, U. S. A., who are candidates for admission into the medical department of the Army. The board will be governed in its proceedings by such instructions as may be communicated to it by the surgeon-general of the army.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ending April 7, 1900.

P. A. Surgeon J. C. Rosenbleuth, ordered to the *Wilmington*, sailing from New York City, April 5, to join ship at Rio de Janeiro, Brazil.

P. A. Surgeon F. C. Cook, detached from the *Wilmington* and ordered to proceed home by mail steamer.

Surgeon F. Urie, commissioned surgeon from October 25, 1899.

P. A. Surgeon W. M. Wheeler, commissioned passed assistant surgeon from May 27, 1899.

P. A. Surgeon D. N. Carpenter, commissioned passed assistant-surgeon from Oct. 24, 1899.

P. A. Surgeon F. L. Pleadwell, commissioned passed assistant-surgeon from Oct 25, 1899.

P. A. Surgeon W. F. Arnold, detached from the naval hospital, Norfolk, Va., and granted leave for three months.

P. A. Surgeon G. D. Costigan, detached from the naval hospital, Chelsea, Mass., and ordered to the Boston Navy Yard immediately.

P. A. Surgeon D. N. Carpenter, detached from the Boston Navy yard and ordered to the naval hospital, Chelsea, Mass., immediately

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the 7 days ended April 5, 1900.

Surgeon Eugene Wasdin, to proceed to Buffalo, N. Y., and assume command of the service.

P. A. Surgeon J. B. Stoner, relieved from duty at Buffalo, N. Y., and directed to proceed to St. John, N. B., for duty as medical inspector of immigrants.

P. A. Surgeon G. B. Young, granted two days' extension of leave of absence on account of sickness.

Asst.-Surgeon C. E. Decker, granted 29 days' leave of absence, on account of sickness from March 2.

Asst.-Surgeon Taliaferro Clark, on being relieved from duty at Tortugas quarantine, to proceed to New York City. (Stapleton) and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon John McMullen, on being relieved from duty at Louisville, Ky., to proceed to Tortugas quarantine and assume command of the service.

Asst.-Surgeon J. F. Anderson, relieved from duty at Barcelona, Spain, and directed to proceed to Marseilles, France, for duty.

Asst.-Surgeon M. K. Gwyn, relieved from duty at Chicago, Ill., and directed to proceed to Louisville, Ky., and assume command of the service.

Asst.-Surgeon G. M. Corput, upon being relieved from duty at Marseilles, France, to proceed to Washington, D. C.

Asst.-Surgeon C. W. Vogel, relieved from duty at New York (Stapleton), and directed to report to Surgeon L. L. Williams, Immigration Station, New York, for duty.

Acting Asst.-Surgeon G. H. Altree, granted leave of absence for three days.

Acting Asst.-Surgeon John T. Bullard, granted leave of absence for sixty days from April 3.

Acting Asst.-Surgeon S. B. Foster, granted leave of absence for one month from April 6.

Hospital Steward C. H. Woods, granted leave of absence for 15 days from April 6.

Hospital Steward W. F. Schlaar, granted leave of absence for 25 days from April 2.

APPOINTMENT.

Allan J. McLaughlin, of New Jersey, commissioned as assistant-surgeon.

CHANGE OF ADDRESS.

Dr. J. H. Terrill, from Wichita, Kan. to 285 Main St., Dallas, Texas.
Dr. A. L. Porter, from 1010 Harrison to Rookery Bldg., Kansas City, Mo.
Dr. G. H. Litsinger, from Kansas City, Mo. to Milford, Kan.
Dr. G. T. Honaker, from St. Louis, Mo., to Panther, W. Va.
Dr. W. J. Bauer, from Marengo to Promice City, Iowa.
Dr. D. M. Scanlan, from Chicago, Ill., to Lost Nation, Iowa.
Dr. W. M. McCoy, from Chicago, Ill., to Clinton, Iowa.
Dr. L. Savre, from Indianapolis, Ind., to Lake Mills, Iowa.
Dr. J. L. Cook, from Keokuk to Calamus, Iowa.
Dr. E. C. Weir, from Iowa City to Vail, Iowa.
Dr. A. H. Peters, from Keokuk, Iowa, to Hillsdale, Ill.
Dr. W. W. Goodrich, from Des Moines to Mingo, Iowa.
Dr. J. R. Patrick, from Atlanta to Pembrooke, Ga.
Dr. W. A. Brewster, from Augusta to Crescent, Ga.
Dr. F. W. Gale, from St. Louis to Marquand, Mo.
Dr. J. R. W. Kerr, from St. Louis, Mo., to Mt. Pleasant, Miss.
Dr. D. S. Knox, from Augusta, Ga, to Antreville, S. C.
Dr. S. M. B. Smith, from Chicago, Ill., to Ft. Atkinson, Wis.
Dr. F. P. Knauf, Chicago, Ill., to Chilton, Wis.
Dr. E. M. Hurst, from Chicago, Ill., to Meridian, Ind.
Dr. B. H. Leuhrsman, from Chicago, Ill., to Norway, Iowa.
Dr. M. F. Dorsey, from Chicago to Amboy, Ill.
Dr. J. M. Byne, from Augusta to Waynesboro, Ga.
Dr. L. Halpert, from Augusta, to 565 W. Bay St., Savannah, Ga.
Dr. G. H. Buffington, from Keokuk, Iowa, to Pleasanton, Kan.
Dr. O. H. Urstad, from Indianapolis, Ind., to Lake Mills, Iowa.
Dr. H. L. Warwick, from Augusta to Claxton Ga.